Existing Conditions

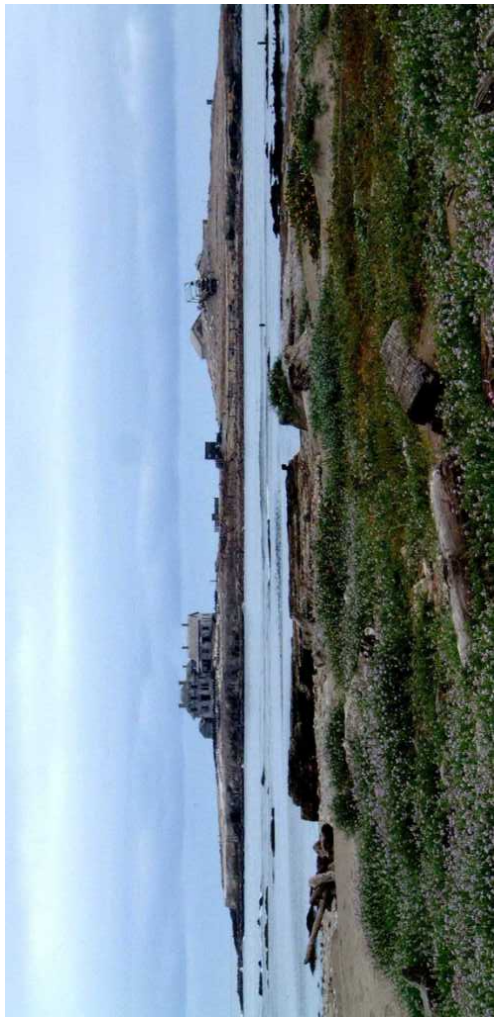

Photo on reverse: Año Nuevo Island from the mainland

Chapter 2: Existing Conditions

2.1 REGIONAL LAND USE

Land use patterns in the Santa Cruz Mountains and along the San Mateo and Santa Cruz county coasts have not changed dramatically in the recent past. Agriculture, parks and natural lands, public and private campgrounds and resorts, and private homes are the major land uses in the region. The general character of land use surrounding Año Nuevo SP and SNR is a mixture of natural lands, state parks, coastal terrace agriculture, and scattered low density rural residential properties. This region is relatively unpopulated and undeveloped in contrast to the dense urban areas to the east and north of the parks.

Larger properties in the region are owned by corporations and religious institutions and are used as private retreats. There are private timber-producing properties on the north side of Butano SP and Big Basin Redwoods SP, north of Año Nuevo SNR and SP.

Año Nuevo SP shares borders with Big Basin Redwoods SP, Butano SP, and the Peninsula Open Space Trust's Cloverdale Coastal Ranches, undeveloped natural lands property to the west. To the north are Pigeon Point Light Station SHP, Portola Redwoods SP and Pescadero Creek County Park along with several other recreational and natural areas. Between Año Nuevo SP and Big Basin Redwoods SP there are private rural residential properties and lands used for agriculture. On Año Nuevo SP's west side, the private Costanoa recreational resort development offers overnight lodging and trails that connect to parks and natural lands in the area.

Cloverdale Coastal Ranches

Año Nuevo SNR is located to the west across Highway 1 from Año Nuevo SP. Between its northern and southern ends, as well as east of the highway, are several large properties in agricultural production. In 2004 Swanton Berry Farm signed a long-term lease with the owners of Coastways Ranch, a large agricultural property east of Highway 1, and has planted organic U-pick berries and kiwis along with other organic produce. The coastal agricultural property just north of the Visitor Center area of Año Nuevo SNR produces flowers for commercial distribution. North of the coastal agricultural property is a parcel of land owned by the Bay Area Rapid

Transit District (BART) intended as habitat mitigation land. North of the BART parcel is another parcel of agricultural land owned and actively farmed by Cascade Ranch Historic Farm. See **Figure 1** and **Figure 2** for the types of land use and land ownership in the region.

The two parks share boundaries and have similar land uses in an area where many surrounding properties have natural land characteristics.

2.2 REGIONAL RECREATION FACILITIES

A variety of recreational activities are available within a ten-mile radius of Año Nuevo SP and SNR from a diversity of providers, both public and private. See **Figures 1 and 2** for the location of regional recreation facilities. See **Appendix B**, *Publicly-Owned Recreational Facilities in the Vicinity of Año Nuevo State Park and State Natural Reserve*, for a list of recreational facilities and activities offered by federal, state and local agencies, briefly summarized below.

PUBLIC RECREATION FACILITIES

Federal Parks

In late 2005, Congress voted to add over 4,000 acres to the Golden Gate National Recreation Area (GGNRA) in northern San Mateo County, 6 miles north of Half Moon Bay. This land rises from Highway 1 along the coast to the nearly 2,000-foot peak of Montara Mountain. The National Park Service plans to open the park to public access and is gathering public suggestions for the use of the land.

The largest concentration of federal natural areas in the region other than in the GGNRA is to the northeast along the southern shores of San Francisco Bay where there are several national wildlife refuges and the California Coastal National Monument (CCNM) along the California coastline. The CCNM consists of all unappropriated or unreserved islands, rocks and outcroppings along the coast of California that are above the mean high tide line and not contiguous to the shore in a distance of 12 nautical miles offshore. See Section 2.6, Planning Influences—Regional Planning, Regional Plans and Programs—for a description of the California Coastal National Monument.

State Parks

Eight state parks are located relatively close to Año Nuevo SNR and SP. Big Basin Redwoods SP and Butano SP are well established and have camping and picnic facilities. North along the coast is Pigeon Point Light Station SHP, which has a hostel facility, and a series of state beach units that includes Bean Hollow SB, Pescadero SB, Pomponio SB, and San Gregorio SB. Castle Rock SP, on a ridge northeast of Big Basin Redwoods SP, is largely undeveloped except for primitive backpacking camps, unusual rock formations popular with rock climbers, and trails that are part of a more extensive trail system linking the Santa Clara and San Lorenzo valleys with Castle Rock SP, Big Basin Redwoods SP, and the coast. Trails link Año Nuevo SNR and SP with Big Basin Redwoods, Butano, Portolá Redwoods and Castle Rock State Parks, as well as with other parks and preserves through those parks.

California State Parks has recently acquired two properties along the Santa Cruz County coast that are currently managed with Wilder Ranch SP. State Parks acquired approximately 407 acres from a total of some 6,831 acres of the Coast Dairies property, located between Waddell Beach and Wilder Ranch SP. This ranch property includes agricultural lands, redwood forest, beaches, and other natural and cultural resources. The entire Coast Dairies property was purchased from Coast Dairies and Land Company by The Trust for Public Land (TPL) using grants from the State Coastal Conservancy. In August 2006, TPL Coast Dairies transferred over 400 acres of Coast Dairies property on the coastal side of Highway 1 near the town of Davenport (approximately five miles of coastal bluff property) and seven acres on the inland side of Highway 1 to California State Parks. The balance of the inland portion of the property is to be transferred to the U.S. Bureau of Land Management (BLM) and a nonprofit group, Agri-Culture, in 2008.

Pigeon Point Light Station

Acquisition of this Coast Dairies property allows California State Parks to conserve and enhance the biological natural land values of the property, provides the Department with a substantial area of coastal frontage to use for public access, trails, and scenic observation, creates new and diverse recreational and educational opportunities by making available to the public an additional 4.2 miles of coastline property, and allows the state to maintain and enhance sustainable agriculture by the continuation of the row crop farming that has existed for decades.

In 2005 several local, state and federal agencies partnered with TPL to permanently protect a 154-acre coastal property

Sand Hill Bluff

called Sand Hill Bluff, between the Coast Dairies property and Wilder Ranch SP. This property is also managed out of Wilder Ranch SP. California State Parks has acquired over 70 acres closest to the shoreline to manage for public access and recreation, resource protection, and agricultural leasing.

County Parks

San Mateo, Santa Cruz, and Santa Clara counties all contain parks near Año Nuevo SNR and SP. Three large San Mateo County parks nearby are Pescadero Creek Park, Memorial Park, and Sam McDonald Park, which offer camping, interpretive, and trail opportunities on a scale similar to some of the nearby state parks.

Santa Cruz County's nearby parks are the smallest and most locally-oriented of the county parks, emphasizing formal recreational facilities such as playgrounds. The exception is Quail Hollow Ranch, which provides trails and interpretation.

The three Santa Clara County parks near Año Nuevo SNR and SP provide a variety of experiences. Sanborn Skyline Park offers camping, hiking and interpretive experiences similar to those in the San Mateo County parks. Upper Stevens Creek Park offers hiking and bicycling trails and wilderness experiences. Stevens Creek Park focuses on activities similar to an urban day use park, including picnicking, trails for hikers, bicyclists, and equestrians, and boating, fishing, and archery.

Midpeninsula Regional Open Space District

The Midpeninsula Regional Open Space District (MROSD) was first created in 1972 to preserve natural lands along the spine of the coastal range running the length of the San Francisco Peninsula and along the boundary line separating Santa Cruz and Santa Clara counties. The MROSD protects viewsheds, provides recreation opportunities in an ecologically-sensitive way, and educates the public about these lands. The MROSD has an active acquisition program to obtain natural land preserves.

The primary recreation facilities on MROSD preserves are hiking, biking, and equestrian trails. Some are loop trails, while others give access to destinations within the preserves. Others are parts of trail networks that connect to other preserves or nearby parks. Generally, trailheads and support facilities are located on land in other ownerships. However, several of the preserves provide a variety of public uses. Self-guided interpretive and docent-led tours are also priorities of the MROSD.

MROSD was expanded to include coastal San Mateo County in 2004. The MROSD Coastside Protection Program provides natural lands and agricultural preservation and management services on the coast. The new MROSD boundary extends from the southern border of Pacifica to the San Mateo/Santa Cruz County line. Any future projects, including purchase of easements or property from willing sellers, land management services, resource restoration, and community programs will be evaluated by the elected Board, with full public participation.

Please see **Appendix B** for more information on public recreation facilities in the region.

PRIVATE RECREATION FACILITIES

The west side of the Santa Cruz Mountains is primarily a natural setting just over a prominent ridge from a large metropolitan area. The urban population supports a number of retreats and conference centers in the region near Año Nuevo SNR and SP, mostly in the Boulder Creek-Felton area, about an hour's drive from Año Nuevo.

Privately-owned overnight facilities help supplement the camping provided by state and county parks in the area. The Costanoa recreation resort development on Highway 1 west of Año Nuevo SP provides a variety of overnight accommodations ranging from indoor lodging to outdoor individual campsites including some sites with full RV hookups. Hostelling International maintains a hostel at Pigeon Point Lighthouse SHP, with both private and shared rooms. The Felton-Boulder Creek area has a number of campgrounds, two of which serve RVs. In addition, several motels, lodges, bed and breakfasts, and a Sempervirens Fund environmental education facility for children are located in the surrounding Santa Cruz Mountains region. The Peninsula Open Space Trust has been working with State Parks and other partners to develop trails and interpretation and education programs at its Cloverdale Ranches.

Costanoa Resort offers a variety of lodging options, including tent cabins and RV hookups.

Año Nuevo SP and SNR are close to services in nearby communities, including restaurants and stores. Additionally, a variety of private recreational opportunities are available in the vicinity, including golf courses, horseback riding, fishing, vineyards, theaters, galleries, and museums.

Appendix C contains further information about private recreational facilities in the region.

2.3 EXISTING PARK LAND USE AND FACILITIES

PARKWIDE LAND USE

Año Nuevo SNR is used for education, day-use recreation, resource preservation and research, watershed conservation, and as a wildlife sanctuary.

Following acquisition of Año Nuevo SNR in 1958, facilities were developed to support day use activities and seal watching, including an entrance and day use picnic area, a Visitor Center in an historic building, several informal parking areas along Highway 1, and a system of trails over the marine terrace and dunes to the coastal cliffs and beaches (see **Figure 3**). These facilities and programs continue to offer a variety of ways for visitors to enjoy and appreciate the natural and cultural resources of the park, including picnicking, hiking on a guided nature walk to see the elephant seals, and spending time in the Visitor Center.

In addition to educational and day use recreation activities, the land at Año Nuevo SNR is used for resource preservation and research, watershed conservation, and as a wildlife sanctuary. Sensitive resources and government regulations have limited land developed for public use to a small percentage of the park's acreage. The locations of prime natural and cultural resources have contributed to the current land use patterns within the park.

Año Nuevo SNR's main public entrance area contains the majority of the developed facilities in the park, including public contact, parking, picnicking, hiking, nature study, staff housing and administrative, interpretive and maintenance facilities.

A Wildlife Protection Area is designated at Año Nuevo Point to minimize disturbance to the animals in their natural habitat as well as provide public viewing opportunities. This is a specific park management designation for Año Nuevo SNR and not a park unit or subunit classification designation. Visitor access into the Wildlife Protection Area is controlled year-round. Docent-led tours are conducted during the winter elephant seal breeding season when visitors most want to see the seals, and when it's best to have a guide to ensure that visitors don't get too close to the seals. The public is allowed access with easily-obtained permits for most of the rest of the year. The dunes and beaches in the Wildlife Protection Area are minimally developed with trails leading out to the coast from the public entrance area. Existing land uses within the Wildlife Protection Area include hiking, nature study, and interpretive programs, primarily guided walking tours. Over 40,000 visitors

participate in formal guided walks during a typical December through March seal breeding season.

To the north of the Wildlife Protection Area, six more public parking areas along Highway 1 provide access to trails that extend across the park's coastal terrace and dunes to the coast-side bluffs above rocky beaches. The northernmost parking area is owned by the California Department of Fish and Game and operated by State Parks.

Año Nuevo Island served as a shipping navigational aid station for decades. The lighthouse no longer exists but the lighthouse keepers' house remains, in a deteriorated condition. There is no general public access to the island. Currently, researchers are studying the animals and plants on the island and are implementing projects to benefit habitat, promote biodiversity, and understand the ecology of recovering native ecosystems. Several species of seabirds that use the island are also being studied in relation to global climate change.

Año Nuevo SP is located directly across the highway from Año Nuevo SNR. The park is not officially open to the public but currently receives some use by hikers, bicyclists, and equestrians on existing regional access roads, trails, and former logging roads. The entrance to Año Nuevo SP's upland area is east of Highway 1 on unpaved Whitehouse Road. There are no developed facilities in this area of the park. There is a small informal parking area that is used as a trailhead located on the east side of the park in the uplands along Whitehouse Road. The historic Cascade Ranch buildings at the south end of the park can be accessed from Highway 1, and are divided into two ownerships: State Parks and Cascade Ranch Historic Farm. The buildings in park ownership serve as staff residences and are not currently open to the public. Año Nuevo SP's land is currently used for resource preservation, wildlife sanctuary, watershed conservation, and water collection (by an acquisition agreement) for private agricultural use.

PARK ATTENDANCE LEVELS

The peak period of visitor use in Año Nuevo State Natural Reserve is December 15 through March 31, the primary elephant seal viewing season. During the rest of the year, visitation is usually greatest on weekends.

Table 2-1 depicts visitor use levels at Año Nuevo SNR from 1997-2007.

Table 2-1
Año Nuevo
State Natural Reserve

Fiscal Year	Attendance
2006/2007	139,237
2005/2006	129,783
2004/2005	126,816
2003/2004	158,188
2002/2003	163,748
2001/2002	140,332
2000/2001	134,228
1999/2000	134,778
1998/1999	135,100
1997/1998	106,816

Source: California State Parks, 2007

Año Nuevo SP is not officially open to the public, so there are no existing visitor use statistics for this park.

DAY USE FACILITIES

After entering Año Nuevo SNR, visitors stop at the park entrance kiosk to obtain information, pay user fees, and park in an adjacent paved parking area. A day use picnic area and restroom building are located adjacent to the parking area. The park's Visitor Center in the historic Dickerman Barn, a short walk from the parking area, features natural history exhibits and a bookstore. Cultural history exhibits are located outside the Barn. Restrooms and drinking water are available near the Visitor Center.

The Dickerman Dairy Barn has been adapted for use as a visitor center. Two other nearby historic ranch buildings are being adapted to serve, with the Visitor Center, as an expanded interpretation and education space called the Marine Education Center.

California State Parks, the California State Parks Foundation, and the San Mateo Coast Natural History Association are partners in developing a new interpretive center to be known as the Marine Education Center in the current Visitor Center building and nearby historic structures. Scheduled for completion in 2007/08, it will provide space for interpretive exhibits and presentations, educational facilities for school programs, and administrative offices.

The Wildlife Protection Area contains a park maintenance/disabled-accessible road, a boardwalk for ADA access to seal observation areas, and interpretive signage. Small parking areas that provide trail access across the marine terrace to the bluffs and rocky beaches are adjacent to the highway.

There is a large parking facility, formerly used for fishing access, at the Gazos Beach Day Use Area. It is owned by the California Department of Fish and Game and managed through an operating agreement by State Parks. The facility consists of a large paved parking lot adjacent to Highway 1 with chemical toilets and a public access trail to the beach. As a part of implementation of the 2007 Marine Life Protection Act, offshore areas, including the Año Nuevo coast, were established as a part a network of Marine Protected Areas (MPA). This designation significantly increases the protection of marine life within an MPA. As a result, surf fishing south of Gazos Creek is no longer permitted. The Gazos Beach parking area continues to serve as a day use coastal access facility.

Año Nuevo SP does not have existing developed recreation facilities. There is a trailhead and an undeveloped parking area for the Whitehouse Ridge Trail on the east side of the park off Whitehouse Road. The historic Cascade Ranch area is currently not open to the public.

Table 2.2 provides a summary of existing day use facilities at Año Nuevo SNR:

Table 2-2
Año Nuevo SNR Day Use Facilities

Facility	Description	# Parking Spaces	# Restrooms	Comments
Entrance Kiosk	Visitor Services	6	0	
Main Visitor Parking Lot	Parking/trailhead	125	1	7 restroom stalls and 2 chemical toilets
Main visitor area	Picnic sites	0	0	8 individual sites
Visitor Center (Dickerman Barn)	Visitor Services, Interpretation	0	0	
Exhibit Building (Staging Area)	Visitor Services	0	2	
Latta Gate Trailhead	Parking/Trailhead	1	1	
Franklin Point Trailhead	Parking/Trailhead	8	0	
Whitehouse Creek Trailhead South	Parking/Trailhead	4	0	
Whitehouse Creek Trailhead North	Parking/Trailhead	5	0	
Cascade Creek Trailhead	Parking/Trailhead	5	0	
Gazos Fishing Access	Parking/Fishing Access/Beach	27	2	Chemical toilets

CIRCULATION

The parks are approximately 30 miles north of Santa Cruz and 25 miles south of Half Moon Bay on Highway 1. Visitors accessing Año Nuevo SNR's main entrance and Visitor Center area turn onto an entrance road west of the highway and travel a short distance to a kiosk and parking area with an adjacent restroom and picnic facilities. The Visitor Center and trailheads for guided hikes are a short walk south from the parking area. North of Año Nuevo SNR's main entrance are several parking areas west of the highway. These parking areas provide public access to trails that extend across the marine terrace to the steep cliffs and beaches along the coast (see **Figure 3**).

There is access to Año Nuevo SP in the historic Cascade Ranch area and another access at Whitehouse Road. The

park is bisected by two unpaved roads in addition to Chalk Mountain Road on the south end of the park. Old Womans Creek Road, which extends from Gazos Creek Road between Año Nuevo SP and Butano SP has an access easement for private properties located east of the park. The main access road into the park, Whitehouse Road, has a similar easement (see **Figure 3**).

According to the California Department of Transportation, over 5 million people in 2.2 million vehicles per year drive past the Santa Cruz/San Mateo County line on Highway 1, situated between Big Basin Redwoods SP's Waddell Beach and Año Nuevo SNR. Tourists visiting the elephant seals at Año Nuevo SNR and the beaches along the shore make up a large percentage of these travelers.

San Mateo County's SamTrans bus system serves the community of Pescadero north of the park with one round trip in the morning and one round trip in the afternoon from Half Moon Bay north on Highway 1. The SamTrans system connects with the Bay Area Rapid Transit (BART) system on the west side of San Francisco Bay at Millbrae. At the Millbrae transit hub, the CalTrain commuter system runs from San Francisco south to Gilroy. Bicycles are allowed on all three public transportation systems.

The Santa Cruz Metropolitan Transit District (SCMTD) provides bus service on Highway 1 at Waddell Creek, approximately 2.5 miles south of Año Nuevo SP's Cascade Ranch entrance, twice a day and on weekends, connecting to downtown Santa Cruz and to the Monterey Salinas Transit system south of Santa Cruz. Bicycle transport accommodations are currently available on SCMTD buses.

Table 2-3
Año Nuevo SNR Roads

Name	Miles
Park Entrance Road	0.4
Service Road to Beach	0.5

Table 2-4
Año Nuevo SP Roads

Name	Miles
Chalk Mountain Road	0.78
Whitehouse Road	1.4
Old Womans Creek Road	1.6

Tables 2-3 and 2-4 show existing roads within the two parks.

Trails

The coastal trail system in Año Nuevo SNR is limited to trails along the park's southern boundary and the trail spurs to the coastal bluffs on the north side of the Wildlife Protection Area. The 1.3-mile Año Nuevo Point Trail extends from the Visitor Center area to Año Nuevo Point. Disabled visitors have access by park vehicle to a boardwalk on Año Nuevo Point that extends to the elephant seal breeding area. A short loop trail extends around a small pond near the Visitor Center, and there is also a trail to the beach along Año Nuevo Bay, just south of the Visitor Center area.

An opportunity to access nearby state parks on the inland side of Highway 1 is available at the Whitehouse Trail parking area at Whitehouse Road and Highway 1. This allows access into Año Nuevo SP, Butano SP, Big Basin Redwoods SP, and other natural areas and parks, and to the privately-owned Costanoa recreation development west of Año Nuevo SP.

Año Nuevo SP does not have formally designated system trails, but there is some public use of the park's existing roads and backcountry trails (such as the Whitehouse Ridge Trail) by hikers, mountain bicyclists, and equestrians (see **Figure 4)**. Trail use to the north and east boundaries of the park takes visitors beyond the park into Butano SP, Big Basin Redwoods SP, and beyond. There currently is no direct public trail or road access into Año Nuevo SP's Lake Elizabeth area from Highway 1, but the Cascade Creek Trail parking lot is located on the coastal side of the highway across from the Lake Elizabeth area.

Tables 2-5 and 2-6 provide a summary of existing trails within the two parks. (Trail numbers refer to the trail listing on Appendix D: Existing Trails.)

Table 2-5
Año Nuevo SR Trails

Name	Miles
New Years Creek Trail	0.25
Cove Beach Trail	0.04
Pond Loop Trail	0.4
Año Nuevo Point Trail	1.3
Cascade Creek Trail	0.5
Whitehouse Creek Trail	0.19
Atkinson Bluff Trail	1.8
Franklin Point Trail	0.6
Unmaintained trails	1.8

Table 2-6
Año Nuevo SP Trail

Name	Miles
Whitehouse Ridge Trail	1.5

Administration and Maintenance Facilities

Administrative facilities for Año Nuevo SNR are currently located in a small modular building near the Visitor Center. Maintenance facilities for Año Nuevo SNR are located in Butano SP and at the Rancho del Oso area of Big Basin Redwoods SP.

There are staff housing facilities but no park administration or maintenance facilities currently in Año Nuevo SP. Park staff use maintenance facilities located in Butano SP and at the Rancho del Oso area of Big Basin Redwoods SP, if necessary.

Utilities

Utilities at Año Nuevo SNR are primarily in the main entrance area. Propane tanks provide gas for heat and heated water at the Visitor Center, the Docent Roost (a small interpretive program building along the Año Nuevo Point Trail, see page 2-70), and two staff residences. AT&T provides telephone service through overhead lines. There are septic systems serving the main visitor parking lot restroom, the temporary staff office, and the two staff residence buildings. Septic systems are often used where a municipal sewer system is not available. In 2004 the sewer system's leach field (effluent is distributed through a series of shallow rock-filled trenches and "purified" by percolation through the soil) was converted to a sewer pit system (effluent is directed into a larger and deeper

rock-filled hole and is "purified" by percolation through the soil). The exhibit building has two chemical toilets, and the Staging Area and Gazos Creek Fishing Access are served by two chemical toilets each. The Equal Access Trailhead has one chemical toilet. Water is provided from on-site wells. The Pacific Gas and Electric Company provides electric service to park facilities through overhead and buried lines. Any additional development of Año Nuevo SNR would be significantly limited by the lack of adequate supplies of potable water.

Utilities at Año Nuevo SP are located in the Cascade Ranch area, which has two septic systems supporting the Main and Cook Houses, and Pacific Gas and Electric Company overhead electric service to these structures and the historic barn. Water is supplied by Cascade Creek and passed through a water treatment facility. Propane tanks provide gas to all facilities requiring heat or heated water. Pacific Bell provides telephone service through overhead lines. The private Costanoa recreation development uses water from wells located on Año Nuevo SP property in the Quiroste Valley, where piping and other well infrastructure facilities are located.

The Dickerman-Steele home is used as an employee residence

EMPLOYEE HOUSING

Año Nuevo SP and SNR are located within and managed by the Santa Cruz District of California State Parks. The high cost of living in the area necessitates the provision of park housing opportunities for employees. Park staff housing also serves park management by providing security and surveillance for certain areas of a park unit. Employee housing is allocated at the district level.

There are two employee residences at Año Nuevo SNR: the Dickerman-Steele House adjacent to the Visitor Center area, and the Steele beach residence north of Año Nuevo Point. There are two park employee residences in Año Nuevo SP, both located in the Cascade Ranch area: the Steele House and the Rensselaer Steele/Humphrey House.

CONCESSIONS

Currently there are no concession operations in either Año Nuevo SP or SNR.

ACCESSIBILITY OF PARK FACILITIES

ADA-compliant facilities within Año Nuevo SNR include restrooms at the day use picnic area, the temporary staff office, and the Dickerman-Steele House employee residence. Designated accessible parking is available in the main parking lot. The Visitor Center is generally accessible with occasional short sloped areas of historic flooring. Assistance may be needed with the side ramp or entry. Exhibits are mostly accessibly designed. Video transcript is available and open captions for the introductory video are planned. The introductory video has been open captioned, and a transcript is available. The updated Marine Education Center displays have been designed with accessibility in mind. Nearby restrooms are generally accessible.

Persons with a mobility disability may reserve a tour of the seal breeding area on weekends during the breeding season by arranging with park staff for transportation to the beach. A wheelchair accessible van transports visitors to the staging area to an accessible trail. The Boardwalk Trail/Equal Access Trail is a 0.27-mile boardwalk over dunes and coastal scrub along the beach that allows users to observe the northern elephant seals. Beach wheelchairs are available for access to the beach. Additional information on the accessibility of Año Nuevo SNR can be found in the June 2000 Santa Cruz District, Mountain Sector, *Año Nuevo State Park Accessibility Survey* and the California State Parks Accessibility website.

As Año Nuevo SP is developed, universal access for park visitors will be integrated into all program areas. This will include facilities and accessible routes to facilities areas. Accessible interpretive techniques will be used in the development of interpretive displays and interpretive programs, both guided and self-guided. Accessibility will not be limited to public use areas, but also employee areas and park housing areas as they are developed. The Department is continually improving existing facilities throughout the state park system to be compliant with the Americans with Disabilities Act. As of July 2007, the Department's ADA improvement project priority schedule has identified an Año Nuevo SP project for the year 2009 to improve accessibility to existing exhibits, picnic sites, and restrooms.

2.4 SIGNIFICANT RESOURCE VALUES

PHYSICAL RESOURCES

The information in this section was compiled from existing documents and field research. For more detailed information on the park's physical resources, please refer to the Reference section of this document and the Department's unit data files.

Topography

The topography of Año Nuevo SNR is dominated by a gently sloping marine terrace bordered by a rocky shoreline. The westerly portion of the marine terrace is covered by sand dunes that migrate from north to south, driven by the prevailing northwesterly winds. About a half mile offshore is rocky Año Nuevo Island, which was part of the mainland as recently as 400 years ago.

Elevations in the Reserve range from sea level to a 145-foot benchmark at a location adjacent to Highway 1. Five permanent creeks flow into the ocean within the boundaries of the Reserve. From north to south they are: Gazos, Whitehouse, Cascade, Green Oaks, and Año Nuevo creeks.

The dominant landforms in the southwestern two-thirds of Año Nuevo SP are marine terraces with level to gently sloping tops and gently to moderately sloping sides. These terraces are dissected by several permanent and intermittent streams, including Old Womans, Whitehouse, and Cascade creeks. Gazos Creek forms the northern boundary of the park. Marine terraces are older, higher, steeper, and more dissected in the central portion of the park.

The northeastern one-third of Año Nuevo SP consists of moderate to steeply sloped uplands that rise to more gently sloped and rounded ridgetops. These ridgetops extend eastward beyond park boundaries into adjacent public and private lands. Steep-sided canyons separate the ridges of this portion of the park.

Elevations within Año Nuevo SP range from approximately 60 feet to 1280 feet above sea level. The lowest elevation in the unit occurs along Highway 1 near the highway bridge over Whitehouse Creek. The highest elevation is reached along the eastern boundary of the park on a ridgetop south of Whitehouse Creek.

Climate

Año Nuevo SNR and SP are located within the Mediterranean Climate Zone, moderated by marine influence. The year round climate along the California coast is mild and not subject to severe seasonal change. This is due primarily to the moderating influence of the Pacific Ocean. Cool temperatures and moderate to strong west and northwest winds dominate offshore waters and lower inland elevations during the summer. Occasionally, offshore circulation patterns permit hotter, continental temperature regimes to become established in the park, usually lasting only one to two days. Temperatures ranges can be greater in the upper elevations of the park and farther away from the moderating marine influence.

A primary influence on the climate is the eastern North Pacific High, a semi-permanent high pressure area that intensifies and migrates northward during the summer months, keeping storm tracks well to the north. During this time of the year California receives little or no precipitation from Pacific storms. In winter, the North Pacific High decreases in intensity and retreats southward, allowing north Pacific storms (i.e. low pressure centers) to move into and across the state. The El Niño phenomenon of cyclical ocean warming increases the severity and frequency of winter storms and increases the amount of precipitation. During El Niño events, coastal erosion accelerates, with loss of beach sand and coastal bluff failures.

Storms originating in the Gulf of Alaska are the major precipitation sources for the state. However, in winter, some precipitation arrives from the subtropics. Infrequent tropical storms (monsoonal moisture) may reach central California from northern Mexico during the summer and early fall.

Temperature

The average annual temperature for the Santa Cruz Mountains area ranges from 55° to 59° Fahrenheit (F). The overall range of temperature is about 25° F to 102° F, with extremes occurring rarely. The warmest months are July, August, and September, with the coldest months in December, January, and February.

No park-specific data exists for Año Nuevo SNR and SP. The closest monitoring station is at San Gregorio, located approximately 15 miles to the north. The annual mean average temperature is 55.1° F, based on data from 1971 to 2000. The mean average daily maximum and minimum

temperatures are 65.2° and 44.8° F, respectively. Daily extremes on record are 99° F in October 1987 and 20° F in December 1998. The average temperatures for adjacent Big Basin Redwoods SP may be more indicative of temperatures in Año Nuevo SNR and SP. At Big Basin Redwoods SP, temperatures range from 30° to 40° F in the winter to 80° to 90° F in the summer.

Precipitation

Site specific precipitation data is not available for Año Nuevo SNR and SP. The closest monitoring station is at San Gregorio. The mean average annual rainfall, based on data from 1971-2000, is 29.52 inches. Rain was recorded in all months of the year, but the wet season is primarily from October through April. The highest recorded monthly rainfall was 17.15 inches in February 1998 (El Niño year). The highest recorded daily rainfall, based on records from 1954-2001, was 6.37 inches on October 13, 1962. Snow is a rare occurrence on the California coast, but trace amounts have been recorded in 1972, 1974, and 1976, and 4 inches was recorded in January 1962.

Precipitation at Año Nuevo SP is more variable than on the coast, due to the orographic effects of the Santa Cruz Mountains. Inland, higher elevations will have higher rainfall amounts (orographic precipitation) as the warm, moist air rises up over the mountains. Four miles farther inland, the average annual precipitation at the Big Basin Redwoods SP headquarters is 47.99 inches. The average annual precipitation in Año Nuevo SP probably falls somewhere between the values for San Gregorio (29.52 inches) and Big Basin Redwoods SP.

Wind

During the summer and fall in the Año Nuevo SNR and SP area, the dominant air movements are those associated with differential heating and cooling of the ocean and adjacent land. The sea breeze generally begins in the morning and blows strongly during daylight hours as cooler and denser sea air moves inland to displace heated, less dense air over the interior. At night, greater radiational cooling over the land causes the air over the interior to become cooler and denser than the air over the ocean. Winter winds are predominantly from a southwesterly direction during storms, but typically shift to a northwesterly direction after passage of the cold front. In the spring winds usually blow from the northwest.

Potential Effects of Global Climate Change on the Park

Climate change refers to change in the Earth's weather patterns including the rise in the Earth's temperature due to an increase in heat-trapping or greenhouse gases in the atmosphere. Greenhouse gases include carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride among others. Human activities are adding large amounts of greenhouse gases to the atmosphere. Combustion of fossil fuels for heat, electricity, and transportation is the main source of these gases.

Heat-trapping emissions in the world's atmosphere have greatly increased since industrialization, causing a rise in average temperatures world-wide and other climate changes. How great this climate change is in the future will depend on the actions taken to limit future releases of heat-trapping emissions, and new technologies developed to address the problem. At least some additional warming is inevitable in the next decade, even in the unlikely scenario that the most stringent measures to reduce heat-trapping gases are immediately put in place.

Some potential effects of climate change on Año Nuevo SP and Año Nuevo SNR may include:

- Sea level rise: Based on current climate and greenhouse gas emission projections, it is expected that sea level will rise at a greater rate than it has over the past 100 years. Major consequences of sea level rise include:
  - Increased salt water intrusion into coastal aquifers.
  - More beach areas and coastal wetlands areas will be inundated. Saltwater/freshwater interface and zone of brackish water will migrate inland.
  - Tidal prism will increase - potentially greater coastline scour and removal of sediment. A tidal prism is the change in the volume of water covering an area, such as a wetland, between a low tide and the subsequent high tide.
  - Coastal bluffs will be more exposed to wave energy and increased bluff erosion including scour and undercutting.
- Habitat loss and shifts: Some climate change computer models predict decreased rainfall on the California coast, while others predict no change or greater rainfall. If coastal rainfall increases, most of the

increase will be lost as runoff, and the dry summer/wet winter current climate pattern will persist. Warmer temperatures in summer will cause increased drying from evaporation. The combination of warmer temperatures and drier summer conditions may eliminate some plant communities and animal habitat, greatly fragment other habitat, and cause some habitats to shift. The moisture-dependent wetland, riparian, and redwood forest plant communities could be especially affected at Año Nuevo SP and Año Nuevo SNR. Gains or losses in wetland areas will depend on the ability of a wetland to migrate inland, the ability of a wetland to migrate to higher elevation inland areas with greater trappings of sediment; and overall change in tidal range. Since the parks are in the southern end of the coast redwood's range, these trees are especially vulnerable to the effects of warming.

- Fire danger: As the climate warms and possibly dries, wildfires may become more frequent in some areas of California. The San Mateo coast may see a small increase in fires. Both knobcone pine forest and chaparral plant communities located on the higher park ridges are very prone to fire. The plant species in these communities are adapted to fire and can usually regenerate, but increased fires could cause wildlife losses, threaten public safety and structures, and contribute to poor air quality in the park.
- Severe storms and flooding: Climate change may alter the frequency and intensity of winter storms. While this would not directly affect visitors during the usual winter season visitor use at the reserve and probable summer season of visitor use in the inland park areas, storms and resultant flooding and mudslides could damage park infrastructure and access roads.
- Fishery habitat change: Over the next century, spawning streams may warm above temperatures suitable for cold water fish such as salmon and steelhead. Reduced summer stream flow due to evaporation will also cause a loss of fish habitat.
- Possible visitor use increase and changes in recreation use patterns and access: California central coast parks have historically been used in the summer by many Central Valley residents escaping the heat. As the Central Valley summer temperatures climb even higher, the number of visitors from these hotter areas could also climb. Potential changes in recreation use patterns and access resulting from a rise in sea level

elevation may involve loss of existing broad sandy beach areas and safe coastal access locations. Depending on the magnitude of rise in sea level, Año Nuevo Island might become smaller in size.

Air Quality

Año Nuevo SNR and SP are located within the San Francisco Bay Air Basin (SFBAB). The Bay Area Air Quality Management District is the local agency that regulates air quality in the SFBAB. In addition to regulating air quality standards, the Bay Area Air Quality Management District has established a climate Protection Program to reduce pollutants that contribute to global climate change and affect air quality (see also Regulatory Influences). The California Air Resources Board (CARB) regulates emission sources and oversees the activities of the local Air Pollution Control Districts and Air Quality Management Districts. CARB regulates local air quality by establishing state ambient air quality standards and vehicle emission standards.

Existing Air Quality

The main factors that determine air quality are the locations of pollutant sources (such as urban or industrial areas) and the influence of topographic and climatic/meteorological conditions. Wind direction, wind speed, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

Año Nuevo SNR and SP are located within the southwestern portion of the SFBAB which includes Santa Clara, San Mateo, Contra Costa, San Francisco, Marin, Napa, southern Sonoma, and western Solano counties. Emission sources in the SFBAB are industrial facilities, several airports, and a dense freeway and surface street network. Though separated by the Coast Range (Santa Cruz Mountains) to the northeast, wind can move air pollution from the metropolitan San Francisco Bay area south through small gaps in the mountains; however, most pollutants from the urbanized Bay Area are transported inland to the Central Valley. The SFBAB is a non-attainment zone for ozone and PM_{10}.

Ozone

Ozone, a colorless gas that is odorless at ambient levels, is the chief component of urban smog. Ozone is a secondary air pollutant that is produced in the atmosphere when hydrocarbons (Reactive Organic Gas) and nitrous oxide (NO_x) precursors react in the presence of sunlight. Motor vehicle emissions are generally the primary source of ozone

precursors. Low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum meteorological conditions for ozone formation; therefore, summer is generally the peak ozone season. Wind then disperses the ozone, creating a regional problem.

The SFBAB continues to violate the State ozone air quality standards, posing a challenge to State and local air pollution control agencies. However, the emission levels for ozone precursors NO_x (Nitrous Oxides) and ROG (Reactive Organic Gas, or non-methane hydrocarbons such as aldehydes, ketones and ethers), have been trending downward since 1975 due to stricter motor vehicle controls and oil refinery and other industrial emission standards. Ozone concentrations have declined 21% during the last 20 years.

Particulate Matter (PM)

PM_{10} consists of a mixture of particles and droplets 10 microns or less in diameter ("coarse" particles) that have varied chemical composition. PM contains a subgroup of smaller particles ("fine" particles) less than 2.5 microns designated as $PM_{2.5}$. These particles pose a greater health risk because their small size allows them to deposit deep in the lung and they contain substances that are particularly harmful to human health.

Sources of ambient PM include: combustion sources such as trucks and passenger vehicles, off-road equipment, industrial processes, residential wood burning, and forest/agricultural burning; fugitive dust from paved and unpaved roads, construction, mining, and agricultural activities; and ammonia sources such as livestock operations, fertilizer application, and motor vehicles. In general, combustion processes emit and form fine particles ($PM_{2.5}$) whereas particles from dust sources tend to fall into the coarse (PM_{10}) range.

Most of the State, including the SFBAB, is designated as non-attainment for PM_{10} standards. Due to the variety of sources and the size and chemical composition of the particles, the PM_{10} problem can vary widely from one area to another. PM_{10} concentration also varies with the seasons. Wildfires, agricultural practices, and dust storms are potential spring and summer season sources, while wood burning is a fall and winter season source. Dry weather and windy conditions cause higher coarse PM emissions, resulting in elevated PM_{10} concentrations.

Direct emissions of PM_{10} increased in the SFBAB between 1975 and 2000 and are projected to continue increasing due to

the growth in emissions from area-wide sources, primarily fugitive dust.

Table 2-7
Air Pollution Summary[a]

Pollutant	Standard[b]	1985	1990	1995	2000	2003
Ozone						
Highest 1 hour average, ppm[c]	0.09	**0.16**	**0.13**	**0.16**	**0.15**	**0.13**
Number of standard violations[d]		45	14	28	12	19
Particulate Matter PM_{10}						
Highest 24-hour average, µg/m3[c]	50	ND[e]	**165**	**74**	**80**	**60**
Number of standard violations[d]		ND	93	42	42	30

a. Data from the California Air Resources Board, (California Air Resources Board 2005b)
b. State standard, not to be exceeded. Exceedances shown in **bold** type.
c. ppm – parts per million; µg/m3 – micrograms per cubic meter
d. Number of days in a given year that violations of the applicable standard were measured.
e. ND – No Data

Geology

Año Nuevo SNR and SP are located in the Coast Ranges Geomorphic Province, a northwest-trending chain of hills and mountains that formed primarily due to movement along the San Andreas Fault and associated faults. The Jurassic to Cretaceous aged igneous, metamorphic, and sedimentary basement rocks are part of the Salinian Block, a tectonic block bounded to the east by the San Andreas Fault. These rocks originated some 350 miles to the south and began moving north during the Miocene (26 to 7 million years ago) as the San Andreas Fault was activated. The Salinian Block continues to move in a relative northwesterly direction "riding" along the northwest-trending San Andreas Fault Zone.

Coastal bluffs, Año Nuevo SNR

Año Nuevo SNR is located on uplifted marine sand dune and terrace deposits which are underlain by the Miocene aged (13-20 million year old) Monterey Formation (Brabb, et al. 1998). Rocks of the Monterey Formation consist of siliceous sandstones and shales, mudstone, shale, and diatomite. These rocks can be seen along the coastal bluffs and beaches. The Monterey Formation contains few large fossils, but foraminifera, fish scales, and diatoms (diatomite rocks) are common (Department of Parks and Recreation 1979). In the northern portion of Año Nuevo SNR near Whitehouse Creek are outcrops of the Upper Cretaceous (66-98 million years old) Pigeon Point Formation, consisting of gray to greenish gray sandstone, and conglomerate with interbedded gray to black to buff siltstone and mudstone, locally containing mollusk and foraminifera fossils (Brabb, et al. 1998). Pigeon Point Formation rocks are exposed at Franklin Point and vicinity.

Younger alluvial deposits are found along Año Nuevo, Green Oaks, Cascade, Whitehouse, and Gazos Creeks. The lithologic log for the active well at the park Visitor Center shows alternating sand and clay to a depth of 42 feet below ground surface (bgs), followed by interbedded shale and sandstone bedrock to the total depth of the well (105 feet bgs).

At its western boundary with Año Nuevo SNR, Año Nuevo SP contains uplifted Quaternary-age marine sand dune and terrace deposits (Brabb, et al. 1998). In the northern portion of Año Nuevo SP near Whitehouse Creek are outcrops of the Upper Cretaceous (66-98 million years old) Pigeon Point Formation described above. This formation is not susceptible to slope instabilities (ESA/Madrone 1982).

Moving inland into steeper terrain, the predominant rock formation is the Pliocene-upper Miocene aged Purisima Formation. The Purisima Formation consists of gray to greenish-gray to buff fine-grained sandstone, siltstone, and mudstone, with some porcelaneous shale and mudstone, chert and volcanic ash (Brabb, et al. 1998). The Purisima Formation is easily eroded and susceptible to slope failures.

The northeast section of Año Nuevo SP is underlain by the lower Pliocene Santa Cruz Mudstone, separated from the Purisima Formation to the west by a trace of the San Gregorio Fault. The Santa Cruz Mudstone is a brown and gray to light gray, buff, and light yellow siliceous mudstone with non-siliceous mudstone and siltstone and minor amounts of sandstone (Brabb, et al. 1998). Weathering reduces the strength of the Santa Cruz Mudstone and makes it very susceptible to slope instabilities (ESA/Madrone 1982). Younger

Holocene-age stream channel deposits (alluvium) consisting of clay, silt, sand, gravel, and larger materials are found along Cascade, Whitehouse, Gazos Creeks, and their tributaries.

Soils

Information on soils at Año Nuevo SNR and SP are taken from three U.S. Department of Agriculture publications (USDA 1961, 1973, and 2002). Soils present within the Año Nuevo SNR include the Lockwood, Lobitos, Watsonville, and Dublin series, as well as active dune sand, stabilized dune land, coastal beaches, and terrace escarpments. Soils present within Año Nuevo SP include: Botella, Butano, Colma, Corralitos, Dublin, Gazos, Lobitos, Lockwood, Pomponio, Santa Lucia, Tierra, Tunitas, and Watsonville series, as well as Mixed Alluvial Land and Rough Broken Land classifications.

Park soils have variable erosion hazard, with the erosion hazard increasing with increasing slope. The Butano, Colma, Dublin, Lobitos, Pomponio, Santa Lucia, and Tierra soils are all rated severe for septic systems (leach fields) and therefore are not suitable. Additional information on soil types and soil properties are provided in **Appendix F** (for both Año Nuevo State Natural Reserve and Año Nuevo State Park).

Geologic Hazards

The following potential geologic hazards must be considered when planning new buildings, campsites, roads, or trails within the parks.

Seismic Hazards

Año Nuevo SNR and SP are located in the seismically active central California coast region. The closest major active (Holocene to Recent) fault, which trends through the park, is the San Gregorio, considered a segment of the San Andreas Fault. The San Gregorio Fault, a right lateral strike slip fault, is broken into numerous splays (branches) at Año Nuevo SNR: the Año Nuevo Creek Fault along the Año Nuevo Creek drainage and the Frijoles Fault just west of the large pond. These faults are delineated on the official Alquist Priolo Earthquake Fault Zone Map, Point Año Nuevo and Franklin Point quadrangles (California Geological Survey 1982)(see **Figure 5**). Therefore, the possibility of ground surface rupture within Año Nuevo SNR should be considered when planning future development. The events that led to the formation of Año Nuevo Island, once part of the mainland, are attributed to movement and subsequent erosion along segments of the San Gregorio Fault.

The San Gregorio is capable of generating an earthquake with a Maximum Moment Magnitude of 7.3 (Petersen, et al. 1996). The Seismic Shaking Hazard Map (California Geological Survey 2003) shows that Año Nuevo SNR lies within a zone that has a 10% probability of experiencing moderate to strong shaking on the order of 0.5g to 0.7g peak ground acceleration within 50 years. In addition, the San Andreas Fault, located 15 miles to the east is capable of generating an earthquake of magnitude 7.0 (Santa Cruz Mountain segment). Secondary seismic hazards, such as liquefaction and landsliding, may occur during an earthquake. Strong seismic shaking may trigger movement on any existing landslides. Any new structures must be built according to the specifications in the most current accepted edition of the Uniform Building Code or California Building Code. Rehabilitation or improvements on any historic structures must be in compliance with the California Historic Building Code.

Secondary seismic hazards, such as liquefaction, landsliding, and tsunamis may occur during an earthquake. Strong seismic shaking may trigger movement on any existing landslides or slumps along the coastal bluff. Tsunamis may occur due to earthquakes on offshore portions of the San Gregorio Fault. Tsunami hazard zones are discussed in more detail in the Hydrology section.

Liquefaction

Liquefaction could occur in loose, granular materials (alluvium) below the water table, such as along stream channels and in unconsolidated, disturbed materials. According to the liquefaction hazard maps from the Association of Bay Area Governments (ABAG), the liquefaction susceptibility ranges from low to high for various portions of the Año Nuevo SNR, and very low to low at Año Nuevo SP. The southeast portion of Año Nuevo SNR, including the Visitor Center area, is ranked low with the exception of the alluvial materials within the Año Nuevo Creek drainage, which are ranked as moderate. Most of Año Nuevo Point is ranked as moderate. The portion of Año Nuevo SNR north of Green Oaks Creek to Gazos Creek is ranked low or moderate. The majority of the drainages of Green Oaks, Cascade, and Gazos creeks are ranked as high with some areas ranked moderate. The Whitehouse Creek drainage is rated as moderate (ABAG 2005).

Landslide Hazards

No known active landslides exist within the interior portions of Año Nuevo SNR, mostly due to the relatively gentle

topography. However, coastal bluff erosion is a potential issue. Some areas with old landslides are visible in the aerial photos from the California Coastal Records Project (Adelman and Adelman 2002) and indicated on the landslide hazard maps available from the ABAG (2003) website.

The upper drainages of Whitehouse Creek and Old Womans Creek in Año Nuevo SP, as well as most of the Gazos Creek drainage are mapped as "mostly landslides" (USGS 1998, ABAG 2003). Landslide and sediment sources have been mapped in portions of Ano Nuevo SP along Gazos Creek and Old Womans Creek (Balance Hydrologics, Inc. 2003) as part of the Gazos Creek watershed study. Additional landslides have been mapped in the Whitehouse and Cascade Creek drainages by ESA/Madrone (1982).

Coastal Erosion

Segments of the San Mateo County coast are classified stable or unstable based on the inherent resistance of the exposed rocks to wave erosion and slope failure. The area of Año Nuevo Point and the area north of Franklin Point have been designated as unstable. During the 1982-83 El Niño storm season, numerous block falls and some landslides and debris flows occurred along the beach from Año Nuevo Creek northwest to Año Nuevo Point. From Año Nuevo Point north to Franklin Point, coastal erosion is minor, but severe beach erosion due to waves occurs north of Franklin Point (USGS 1998).

Año Nuevo Island shows the dramatic results of coastal erosion. Erosion was rapid as the waves cut into the soft, unconsolidated terrace deposits and dune sands. Since about 1970, the rate of erosion has slowed, as the now exposed hard Monterey Formation bedrock is more resistant (Wright, et al. 1990).

Hydrology and Water Resources

Watersheds

Año Nuevo SNR and SP are located within the Big Basin Hydrologic Unit, as designated by Central Coast Regional Water Quality Control Board (CCRWQCB). Año Nuevo SNR contains the lower portions of the Año Nuevo Creek, Green Oaks Creek, Cascade Creek, Whitehouse Creek, and Gazos Creek watersheds. Additional upper portions of the Green Oaks Creek, Cascade Creek, Whitehouse Creek, and Gazos Creek watersheds are located in the adjacent Año Nuevo SP. Año Nuevo SP contains portions of Cascade Creek and its

unnamed tributaries, Whitehouse Creek, and Gazos Creek and its tributary Old Womans Creek. Gazos and Old Womans Creek are in the northern portion of Año Nuevo SP (see **Figure 6**).

Gazos Creek

The Watershed Enhancement Plan (Conrad and Chartrand 2003) for Gazos Creek identifies it as a priority watershed for restoration of habitat and recovery for coho salmon and steelhead trout. Gazos Creek originates partly within the southern portion of Butano SP, flows through privately owned land, forms the northern boundary of Año Nuevo SP, again passes through private lands, and then flows out to sea at Año Nuevo SNR. The overall watershed area is approximately 16 square miles; the major tributaries are Old Womans Creek and Slate Creek. In the upper watershed, the three tributaries (North, Middle, and South Forks) flow through steep narrow canyons. In the lower 2.5-3 miles, the topography is less steep with rolling hills surrounding the riparian zone. A lagoon is present at the mouth of Gazos Creek, west of Highway 1 (Coastal Watershed Council 2005).

Año Nuevo Creek

The Año Nuevo Creek watershed covers approximately 10 square miles, with the headwaters in Santa Cruz County and the lower portion in San Mateo County. The upper portions are characterized by a wide, steep-sided arroyo that is heavily forested. Año Nuevo Creek has been designated as a Least Disturbed Watershed in the Santa Cruz County General Plan (1994). These watersheds are relatively undisturbed by development. They are worthy of recognition for their importance, and are designated for continued protection. Least Disturbed Watershed areas serve water supply, recreation and wildlife habitat functions, as well as provide a scenic backdrop. They have clear running streams, a high percentage of old growth redwoods, few roads and almost no residential development.

Green Oaks Creek

The Green Oaks Creek watershed originates in Big Basin Redwoods SP, with a small portion in the southern part of Año Nuevo SNR. The creek flows through land owned by private entities and also a segment recently purchased by Peninsula Open Space Trust (POST). The lower portion of the watershed is on Año Nuevo SNR and includes Green Oaks Creek estuary. Green Oaks Creek has several reservoirs that impound water for irrigation on the agricultural lands adjacent to Año Nuevo

SNR. Green Oaks Creek is also designated as a Least Disturbed Waterway.

Cascade and Whitehouse Creeks

Whitehouse Creek flows through the central portion of Año Nuevo SP. Cascade Creek and its tributaries flow through the southern portion of the park and the main branch is adjacent to the Cascade Ranch area. Five water storage reservoirs are present in the Whitehouse and Cascade Creek drainages. The largest is Lake Elizabeth with 49 acre-feet of storage. The water input to Lake Elizabeth is from stormwater runoff and a diversion line from Whitehouse Creek via Chandler Reservoir. Chandler Reservoir holds 36 acre-feet and is fed from Chandler Creek and Whitehouse Creek. Lake Elizabeth stock pond, fed by Cascade Creek, and Whitehouse Road stock pond, fed by springs, are each about 5 acre-feet in size (ESA/Madrone 1982). These reservoirs and stock ponds supply water for agricultural use (see Water Supply section below).

A large pond with an earthen dam is located west of the Visitor Center area at Año Nuevo SNR. This pond appears to be developed along the trace of the Frijoles Fault, a branch of the San Gregorio Fault. This pond may have been a natural sag pond developed in the depression caused by fault movement. An earthen dam was constructed to raise the water level and increase the available storage for irrigation purposes. Currently, no water is taken from the pond since it is within an area designated as critical habitat for the San Francisco garter snake.

Groundwater Resources

The Department of Water Resources defines the area for groundwater purposes south of Whitehouse Creek as the Año Nuevo Groundwater Basin (ANGB) within the Central Coast Hydrologic Region (DWR 2003). Three creeks drain the 3.2 - square-mile ANGB: Año Nuevo, Green Oaks, and Cascade creeks, with Whitehouse Creek forming the northern boundary. In Año Nuevo SP, this area includes the drainages of Cascade Creek and Whitehouse Creek. The area north of Whitehouse Creek to Gazos Creek has not been designated as a groundwater basin.

The water-bearing aquifers in ANGB are Quaternary in age, primarily Pleistocene marine formations, including terrace deposits, consisting of medium- to fine-grained, unconsolidated sands, silts, and clays with some gravels. Groundwater is derived from precipitation and surface water runoff that percolates into the marine deposits (DWR, 2003).

The large pond/reservoir most likely receives some of its input from groundwater and springs. Some groundwater resources may occur in the underlying Miocene Monterey Formation, as indicated by the lithologic log of the existing supply well at the Año Nuevo SNR Visitor Center. At Año Nuevo SP, some groundwater resources may also occur in the bedrock units. Whitehouse Road stock pond is fed by springs originating in the Purisima Formation.

Water Quality

The CCRWQCB regulates water quality in the region and provides water quality standards and management criteria as required by the Clean Water Act. These standards and criteria are presented in the 1994 Water Quality Control Plan (Basin Plan) for the Central Coast Basin (California Environmental Protection Agency 1994). The Basin Plan identifies the beneficial uses and water quality objectives for the Central Coast region.

Año Nuevo Point and Año Nuevo Island have been identified by the Department of Fish and Game as an Area of Special Biological Significance. This designation further limits discharges of point and non-point source pollutants to the ocean or to the streams that flow into this area.

In general, surface water quality is good within the parks, with none of the creeks listed as impaired. Water quality parameters (temperature, dissolved oxygen, turbidity, pH, and conductivity) measured at monitoring sites within the Gazos Creek watershed are all within acceptable parameters. A macroinvertebrate survey showed that the creek condition is good (Coastal Watershed Council 2005). However, a geomorphic assessment conducted in 2003 (Balance Hydrologics, Inc.) indicates that some landslides and failed roads are potential sources of sediment that can degrade water quality and habitat for aquatic organisms. The Old Womans Creek tributary to Gazos Creek contributes a high amount of suspended sediment compared to the rest of the watershed (Balance Hydrologics, Inc. 2003).

Groundwater quality is highly dependent on the composition of the water-bearing strata. Wells and springs located near each other can have large variations in water quality and mineral content. The groundwater quality and yield can change dramatically after earthquake events. For example, after the 1989 Loma Prieta earthquake, Brown House Spring at Big Basin Redwoods SP increased in volume and then went dry for two years.

Flooding

The flood hazard maps from the ESRI/Federal Emergency Management Agency website (2004) show a 100-year flood zone (Zone A) on Año Nuevo Creek upstream of Highway 1 and on Cascade Creek that extends from the coast to approximately 1.5 miles inland. This designated flood zone is most likely due to flooding associated with Highway 1 and the culverts where Año Nuevo and Cascade creeks are channeled under the highway. Zone A 100-year floodplains are also defined along Green Oaks Creek from the mouth to east of Highway 1. A similar flood zone exists on Gazos Creek. The 100-year floodplain for Gazos Creek does not extend into Año Nuevo SP. The Zone A designation means that base flood elevations and flood hazard factors have not been determined.

Tsunami Inundation

The beach areas of Año Nuevo SNR may be subject to inundation from a tsunami. A major earthquake on an offshore segment of the San Gregorio Fault could generate a tsunami that would arrive in minutes, leaving little time for a warning. Tsunamis generated by earthquakes in more distant fault zones may also impact the coastline. With these distantly-generated tsunamis, there would be time to issue a warning.

Water Supply

Water supply for Año Nuevo SNR is from an on-site well with associated water treatment system and storage tanks. The well is 105 feet deep and screened from 45 to 105 feet within shale and sandstone bedrock (possibly weathered), according to the Department of Water Resources well log. The upper zone is described as interbedded clay and sand. Two other holes were drilled, but were not developed into wells; no reasons were given on the well log sheets. Water supply has been an issue at the park, as the well does not produce sufficient water to supply all needs. During peak use times, additional water must be trucked in to provide sufficient water.

Water supply for Año Nuevo SP is from the existing water system established at Cascade Ranch. This system uses water diverted from a dam on Cascade Creek above the falls. The water is treated using a slow sand filtration system and is then piped to the various buildings at Cascade Ranch, both State Parks and private property. Whitehouse Creek Road and Lake Elizabeth stock ponds were used for stock watering. Lake Elizabeth is used for irrigation at the privately-owned Cascade

Ranch Historic Farm. This reservoir is on park property, but California State Parks does not own the water rights except for 15 acre-feet for fire suppression purposes (Strachan 2006).

NATURAL RESOURCES

Evolutionary Processes

Año Nuevo State Natural Reserve is part of an "evolutionary hotspot."

Año Nuevo State Natural Reserve is a part of an "evolutionary hotspot" in the Central Coast region. An evolutionary hotspot is a geographical area of rapid diversification of mammals. In these areas, evolutionary processes are guiding unusually high rates of speciation and morphological change in certain animals and plants. These hotspots occur in selected areas of California's landscape and seem to include areas with topographical and soil gradients, certain geologic conditions (including active fault zones), and an overlap of extremes of species ranges. Attention to evolutionary hotspots and their expanded protection is one step that can be taken to protect species from the impacts of global warming. The location of Año Nuevo in proximity to other protected areas spanning a steep environmental gradient (a gradual and continuous change in communities and environmental condition) provides some defense against the effects of climate change.

Año Nuevo State Natural Reserve Plant Life

Vegetation Types

Año Nuevo SNR supports vegetation types that reflect the proximity of the ocean and lack of topographical relief. Based on the U.S. National Vegetation Classification system (Grossman et al. 1998), there are nine different vegetation types in the Reserve, consisting of six alliances, two stands, and one association (the most specific level of classification). The most comprehensive list of vegetation types for California is maintained by the California Department of Fish and Game (CDFG) Natural Diversity Data Base (CNDDB 2003), which is based on *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and conforms to Grossman et al. (1998). This list incorporates elements of the earlier CNDDB vegetation system described in Holland (1986).

Following is a list of the vegetation types found at Año Nuevo SNR. Three of the nine vegetation types are considered by the CNDDB to be rare natural communities of high inventory priority, and are identified by bold type. Refer to **Figure 8** for distribution of vegetation communities, and **Figure 10** for natural resource sensitivities.

- Arroyo Willow Alliance
- California Annual Grassland Alliance/California Oatgrass Alliance
- Coyote Brush Alliance
- Eucalyptus Alliance
- European Beachgrass Alliance
- Monterey Cypress Stand
- Monterey Pine Stand
- Sand-Verbena–Beach Bursage Association

The Arroyo Willow Alliance is found along and adjacent to perennial streams in the park. It is dense, closed-canopy vegetation dominated by arroyo willow (*Salix lasiolepis*), with scattered wax myrtle (*Myrica californica*) in the canopy, but mostly lacking developed shrub and herbaceous layers.

Areas identified as California Annual Grassland Alliance and California Oatgrass Alliance comprises two vegetation types that are essentially equivalent in function and structure, but are quite different in species composition. They are so intermingled that distinct boundaries are difficult to determine, hence they have been mapped as a single type. Non-native species dominate locations of California Annual Grassland, including slender wild oat (*Avena barbata*) and soft chess (*Bromus hordeaceus*). Native California oatgrass (*Danthonia californica*) is the dominant species in the California Oatgrass vegetation type. Other commonly encountered species include bracken fern (*Pteridium aquilinum*) and non-native sweet vernal grass (*Anthoxanthum odoratum*).

Coyote Brush Alliance is the dominant plant alliance in Año Nuevo SNR.

The Coyote Brush Alliance is the most prevalent vegetation type in the park. It is shrub-dominated vegetation composed of coyote brush (*Baccharis pilularis*) and other species such as poison oak (*Toxicodendron diversilobum*), California sagebrush (*Artemisia californica*), California coffeeberry (*Rhamnus californica*), lizard tail (*Eriophyllum staechadifolium*), and non-native poison hemlock (*Conium maculatum*).

Both the Eucalyptus Alliance and European Beachgrass Alliance are non-native vegetation types. Blue gum (*Eucalyptus globulus*) is typically the only species present in the former series, while European beachgrass (*Ammophila arenaria*) dominates the latter type, with few other species present.

Stands of Monterey cypress (*Cupressus macrocarpa*) are limited in the unit and consist of planted individuals and their

descendants. This vegetation is not indigenous to this area, since the only natural occurrences are restricted to the Monterey Peninsula.

Stands of Monterey pine (*Pinus radiata*) in this park are the result of plantings, although native occurrences are less than a mile east of the unit. Some scientists, however, believe that the natural successional occurrences of the pines on the coastal terrace at Año Nuevo are from the indigenous stands in the Año Nuevo Creek watershed. Soil dating relative to pines show that pines probably grew to the beach before humans started annual burning about 3,000 years ago. Natural occurrences are considered a rare natural community by the CNDDB.

The Sand-Verbena–Beach Bursage Association occurs on sand dunes and sandy locations immediately adjacent to the coastal strand. It is herbaceous vegetation dominated by yellow sand verbena (*Abronia latifolia*) and beach bursage (*Ambrosia chamissonis*).

Special Status Species

Special status plant species are those listed on the California Department of Fish and Game's *Special Vascular Plants, Bryophytes, and Lichens List*. Species officially listed or candidates for listing by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Native Plant Society (CNPS) as rare, threatened, or endangered are included in this list. Plant species that are proposed for special status species listing by the federal government and state candidates for special status species listing are legally protected as if they were listed, and species listed by CNPS on their lists 1A and 1B (see below) meet the criteria for listing and are protected as such. Other species locally sensitive and important to the management of park units are also considered as special status species by California State Parks.

The California Native Plant Society has established five list categories to describe the state's rare, threatened, and endangered vascular plants. List 1A is composed of plant species presumed to be extinct in California because they have not been seen or collected in the wild for many years. Plant species listed as 1B are considered as rare, threatened, or endangered throughout their range, and with few exceptions are endemic to California. Species on this list are eligible for listing under provisions of the California Endangered Species Act. Species appearing on List 2 are considered rare, threatened, or endangered in California, but

are more common elsewhere. CNPS List 3 is composed of plant taxa that lack the necessary information to assign them to other lists or to reject them. Plants on List 4 comprise a watch list of plant taxa that are of limited distribution in California.

Of the 73 special status plant species for San Mateo County reported by CNPS (2001), one species, coast wallflower (*Erysimum ammophilum*), is known to occur within Reserve boundaries. Of the other 72 special status species, suitable to marginally suitable habitat exists within the park for 26 of the species, which are identified in Appendix G. Fourteen of these species are CNPS List 1B plants, one is List 2, one is List 3, and ten are List 4. One species, Hickman's cinquefoil (*Potentilla hickmanii*), is listed as State and Federal Endangered. The Sacramento Office of the USFWS lists another three species as Species of Local Concern, although they have not official state or federal listing status and do not appear on the CNPS lists. These species are pink sand verbena (*Abronia umbellata* ssp. *umbellata*), California saltbush (*Atriplex californica*), and purple owl's-clover (*Castilleja exserta* ssp. *latifolia*).

Please see **Appendix G** for a list of special status plant species for which suitable habitat exists within Año Nuevo SNR.

Exotic Species

Past activities such as agricultural production and cattle grazing have contributed to the introduction of invasive exotic plants into the park. Species of concern that are invasive and/or difficult to eradicate in the park include European beachgrass (*Ammophila arenaria*), fennel (*Foeniculum vulgare*), poison hemlock (*Conium maculatum*), gorse (*Ulex europaeus*), blue gum (*Eucalyptus globulus*), Cape ivy (*Delairea odorata*), Harding grass (*Phalaris aquatica*), jubata grass (*Cortaderia jubata*), Monterey Cypress (Cupressus macrocarpa), and Hypericum canariensis..

Año Nuevo State Natural Reserve Animal Life

The coastal habitat of Año Nuevo SNR is extremely important for wildlife. The marine-land interface of Año Nuevo SNR is characterized by long stretches of sandy beaches and dunes, broken by rocky intertidal habitat. Above the beach zone, steep bluffs rise up to the coastal terrace, that is vegetated with coastal scrub. This is a habitat of low to moderate-sized shrubs with aromatic species such as coastal sage scrub (*Artemisia californica*). Within the relatively dry coastal scrub and surrounding annual grasslands characteristic of much of

Año Nuevo SNR, a number of ponds provide contrasting aquatic habitat. Freshwater emergent wetland rings the edges of the ponds, providing dense cover for aquatic wildlife. Among the most productive habitats in California, wetlands provide food, cover, and water for more than 160 species of birds, and numerous mammals, reptiles, and amphibians (Mayer and Laudenslayer 1988). Additionally, five creeks running through Año Nuevo SNR to the ocean contain riparian habitat, an extremely important wildlife habitat type. Small patches of closed-cone pine-cypress are also present, providing arboreal cover for wildlife. Refer to **Figure 8**, Wildlife Habitats Map, for the distribution of these habitats, which are classified using California Department of Fish and Game's Wildlife Habitat Relationships System.

Año Nuevo Island

Only a half mile off the point of Año Nuevo, Año Nuevo Island is a sanctuary for marine mammals and seabirds. Photographs of the island from the 1800s to the 1960s show that most of the island surface was grassland. The relatively recent loss of vegetation on the island is the result of a combination of erosion, the increase in sea lion activity, and the increase in roosting pelicans and gulls. The central marine terrace is home to a nesting colony of rhinoceros auklets (*Cerorhinca monocerata*), an unusual seabird that nests in burrows. Though the rhinoceros auklet once was widespread, Año Nuevo Island is now one of only three main colonies of this species in California. In recent years, researchers have implemented habitat restoration projects on the island, in an attempt to establish native vegetation such as saltgrass in some of the barren areas. Año Nuevo Island's beaches provide important resting and breeding areas for a variety of other marine birds and mammals as well.

Amphibians

Año Nuevo SNR contains aquatic habitats that support amphibians. The ponds and freshwater emergent wetlands are home to the California red-legged frog (*Rana aurora draytonii*) and an abundance of Pacific tree frogs (*Hyla regila*). Western toads (*Bufo boreas*) can also be found in a variety of habitats in the Reserve, including riparian and upland areas. At least four species of salamanders have been observed in Año Nuevo SNR.

Reptiles

A variety of species of lizards and snakes can be found in the Reserve. Western fence lizards (*Sceloporus occidentalis*) and

western skinks (*Eumeces skiltonianus*) are common inhabitants of a number of the habitats, including coastal scrub. Freshwater emergent wetlands support aquatic garter snakes (*Thamnophis atratus*), including the San Francisco garter snake (*T. sirtalis tetrataenia*) and Southwestern pond turtles (*Clemmys marmorata pallida*). The adjacent upland habitats such as annual grasslands are home to coast horned lizards (*Phrynosoma coronaturm*) and western rattlesnakes (*Crotalus atrox*), which may be seen warming themselves in exposed areas on sunny days.

Birds

Año Nuevo SNR is notable for its diversity of bird species.

Año Nuevo SNR supports a notably high diversity of avian life. The sandy beach and tidepool habitats along the coast provide important feeding and resting areas for multiple species of shorebirds and gulls. During winter and migration, western whimbrils (Numenius phaeopus) western sandpipers (*Calidris mauri*), willets (*Catoptrophorus semipalmatus*), and rare long-billed curlews (*Numenius americanus*) are just a few of the shorebirds that refuel on the invertebrates living in the sand along the beach. At least seven species of gulls migrate through the area in spring, some of them resting and feeding on the beach. The coastal scrub blanketing the coastal bluffs is home to resident species such as the wrentit (*Chamaea fasciata*), song sparrow (*Melospiza melodia*) and California towhee (*Pipilo crissalis*). Annual grasslands provide valuable hunting grounds for raptors such as American kestrels (*Falco sparverius*), red-tailed hawks (*Buteo jamaicensis*), and American peregrine falcons (*Falco peregrinus anatum*). Waterbirds such as mallards (*Anas platyrhynchos*), cinnamon teals (*Anas cyanoptera*), and California brown pelicans (*Pelecanus occidentalis californicus*) can be seen on the freshwater ponds within the Reserve. Great horned owls (*Bubo virginianus*) and barn owls (*Tyto alba*) are two of the more common of seven species of owls that have been recorded breeding in the Reserve (Strachan 2003).

From the coastline of the reserve out to Año Nuevo Island, seabirds can be found in abundance. Año Nuevo Island is the largest and most diverse seabird breeding colony in the Monterey Bay National Marine Sanctuary, hosting breeding populations of rhinoceros auklets (*Cerorhinca monocerata*), Cassin's auklets (*Ptychoramphus aleuticus*), Brandt's cormorants (*Phalacrocorax penicillatus*), pelagic cormorants (*P. pelagicus*), western gulls (*Larus occidentalis*), pigeon guillemots (*Cepphus columba*), and black oystercatchers

(*Haematopus bachmani*). The island also provides important roosting areas for other seabird species.

Mammals

Mammals are present in all the habitat types in Año Nuevo SNR, although they are seen less frequently than other wildlife due to their often elusive and/or nocturnal habits. Botta's pocket gophers (*Thomomys bottae*) and brush rabbits (*Sylvilagus bachmani*) are some of the smaller mammals present in the grasslands and early successional stages of other habitats onsite. Bats forage over the ponds at night and roost in buildings and crevices in trees during the day. Coyotes (*Canis latrans*) can occasionally be seen hunting in all of the terrestrial habitats of the Reserve. At least five species of marine mammals can be found at Año Nuevo SNR, Año Nuevo Island, and the water in between. More common species include northern elephant seals (*Mirounga angustirostris*), harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*). The Steller (northern) sea lion (*Eumetopias jubatus*) can be found on Año Nuevo Island. In spring, gray whales (*Eschrichtius robustus*) are sometimes visible offshore as they migrate past Año Nuevo Point.

Invertebrates

Invertebrates form the most diverse and abundant taxonomic group, but are the least studied. They are present in all the habitats of Ano Nuevo SNR. More than 300 species of invertebrates have been recorded at Año Nuevo, including an unusual number of rare species. Dragonflies and damselflies can be seen circling over water on warmer days, and butterflies, like the western tiger swallowtail (*Papilio rutulus arizonensis*) and west coast lady (*Vanessa annabella*), are common. Insects are a critical component of a healthy ecosystem, as they are important pollinators for native plants, and an important food source for many species of wildlife.

Special Status Animals

Año Nuevo SNR contains an unusually high number of special animals, those that are listed as threatened or endangered by the state and/or federal government, California fully protected, California Species of Special Concern, or are of local concern. See **Figure 10** for natural resource sensitivity areas.

Special Status Amphibians

The California red-legged frog, a federally threatened species, is present in the pond and riparian habitats of Año Nuevo SNR. This species inhabits quiet pools of streams, marshes, and ponds, and requires permanent or nearly permanent pools for larval development (Zeiner, et al. 1988). Red-legged frogs have been recorded in the pond next to the Visitor Center (DFG 2005).

Special Status Reptiles

The state and federally endangered San Francisco garter snake is the rarest and most colorful of the reptiles found in this region. The species is highly aquatic, and can be found along creeks and in the freshwater emergent wetland habitats in the ponds of Año Nuevo SNR, where it feeds on tadpoles, frogs, and small fish. Southwestern pond turtles are residents of the ponds as well, and also depend on adjacent annual grasslands as egg-laying sites. In the drier coastal scrub habitat, the coast horned lizard, a California Species of Special Concern, may be found.

Special Status Birds

The coastline of Año Nuevo SNR is home to a number of listed bird species. Endangered California brown pelicans (*Pelecanus occidentalis californicus*) feed in the coastal waters, and can be seen bathing in the freshwater ponds in the Reserve. Bank swallows (*Riparia riparia*), a state threatened species, nest along the sandy cliffs of Año Nuevo Point, and can be seen in spring and summer, flying low over the dunes and ponds. The state threatened American peregrine falcon (*Falco peregrinus anatum*) hunts along the coast, and can be seen diving over coastal scrub in fast pursuit of prey. Federally threatened western snowy plovers (*Charadrius alexandrinus nivosus*) have been documented breeding on Año Nuevo Beach in the past (DFG 2005), and winter on the beaches as well. The rhinoceros auklets that nest on Año Nuevo Island are a California Species of Special Concern. These seabirds nest in both natural burrows, and artificial burrows installed by researchers to restore and enhance the population.

Special Status Mammals

Numerous bat species that are recognized as California Species of Special Concern are present in Año Nuevo SNR. Sensitive marine mammals include the federally threatened Steller (northern) sea lion, which breeds on some of the more

isolated rocks of Año Nuevo Island. This is one of the southern-most rookeries for this species in California.

Special Status Invertebrates

The coastal dunes of Año Nuevo Point provide suitable habitat for the globose dune beetle (*Coelus globosus*), a species considered by the Sacramento U.S. Fish and Wildlife Office as a Species of Concern. This beetle lives in foredunes bordering the sea, and burrows in loose sandy areas where common dune plants such as sand verbena and beach bursage grow (Arnold 2003). Other rare invertebrate species are also likely present in Año Nuevo SNR; however more studies are needed to determine their presence and distribution.

Please see **Appendix H** for a list of sensitive wildlife species for which habitat may exist in Año Nuevo State Natural Reserve.

Aquatic Life

The ponds and creeks of Año Nuevo SNR support aquatic wildlife, including rare and endangered species. Aquatic amphibians and reptiles are present in addition to fish. Federally threatened steelhead migrate from the ocean inland, to spawn in the streams found in Año Nuevo SNR, including Whitehouse and Gazos creeks (DFG 2005). The steelhead spawning in the streams of the reserve are part of the Central California Coast Evolutionary Significant Unit (ESU).

Marine Life

The main attraction at Año Nuevo SNR is the marine life. The reserve is home to one of the major breeding populations of northern elephant seals in the state, and supports sea lions and seals as well. Año Nuevo Island is an important Steller sea lion rookery and an important breeding and resting place for multiple species of marine birds. The coastal waters and inhabitants are protected as part of the Monterey Bay National Marine Sanctuary, which is home to some of the most biologically productive waters in California. The coastal waters and tidepools are inhabited by invertebrates such as clams, abalone, limpets, chitons, hermit crabs, and flower-like anemones.

Northern Elephant Seal

The most well known mammal at Año Nuevo State Natural Reserve is the northern elephant seal. The Reserve was originally established for the protection of this species. There are elephant seal rookeries on both Año Nuevo Island and beaches at Año Nuevo Point. The seals can be found in these areas in great abundance during the December to March breeding season and in smaller numbers at several other times during the year. Tens of thousands of visitors come to Año Nuevo each year to view these large marine mammals, especially during the winter breeding season.

The northern elephant seal was hunted to near-extinction in the early nineteenth century, mainly for the oil which could be rendered from its thick layer of blubber. It was originally presumed extinct by the late 1870s. Through the late nineteenth century and into the first decade of the twentieth century, several small populations were found on the coast and islands of Baja California, and in each instance the seals were summarily hunted and killed, either for blubber or for museum specimens. After each of these small populations was eliminated, the species was again thought extinct. The population has been estimated at somewhere between 20 and a hundred individuals at its nadir; but the sporadic sightings and shortage of accurate accounts make exact accounting impossible (LeBoeuf et al.: 31-33).

From this small population, the northern elephant seal made a remarkable comeback after it was protected in both Mexico and the United States in the early twentieth century. As the population rebounded, the seals recolonized—and in some cases colonized for the first time—areas farther and farther north. They were first seen on Año Nuevo Island in 1956, and the first pups were born there in 1961. By 1975, an elephant seal rookery was established on

Año Nuevo Point. The Año Nuevo population has increased both through breeding and immigration. It now appears to have stabilized at its maximum size. The overall population increased by 6.3% annually between 1965 and 1991 (Hildebrandt et al.: 55). It is now estimated at over 150,000 individuals.

Historic records of the northern elephant seal's range before 1840, when it was already severely reduced, are absent. Archaeological evidence turns up no sign of the animals at either Año Nuevo Point or Año Nuevo Island in prehistoric times, when other marine mammals provided a major food source. In fact, from the archaeological record, they do not appear to have been found (except for the occasional vagrant) north of the Channel Islands (Hildebrandt et al.: 55).

The northern elephant seal has been highlighted as a remarkable wildlife population rebound success story, although there is still concern that the "genetic bottleneck" created by the severely reduced breeding population in the early 1900s could have negative implications for the species long term survival.

Northern elephant seals are fascinating because of their massive size (males can reach up to 14 feet in length and 1500 pounds), specialized adaptations to both deep-sea diving and prolonged fasting when on land, and the bulls' violent battles for dominance during mating season, among other reasons. This, along with their previously endangered status, makes them the large visitor attraction that they are.

It should be noted that there are adverse environmental impacts associated with the elephant seals' imposing presence at Año Nuevo. These large powerful animals have damaged and fouled historic structures at the island light station. On the mainland, they have trampled and dug into fragile dune habitats, and are destroying important archaeological sites (Hildebrandt et al.: 8).

Exotic Animals

A small number of non-native, introduced animal species are found in Año Nuevo SNR. Bullfrogs (*Rana catesbeiana*) and Norway or black rats (*Rattus norvegicus* or *R. rattus*) are present in the Reserve (California State Parks 2001). Native to the eastern United States, bullfrogs are opportunistic feeders that have contributed to declining populations of native amphibians and other native species statewide.

Año Nuevo State Park Plant Life

Vegetation Types

Año Nuevo SP contains vegetation types represented in the adjacent State Natural Reserve as well as others occupying more inland locations with moderate to steep mountain slopes. Based on the U.S. National Vegetation Classification system (Grossman, et al. 1998), there are fourteen different

vegetation types in the park, consisting of twelve alliances and two stands. Refer to **Figure 8** for distribution of vegetation communities.

- Arroyo Willow Alliance
- California Annual Grassland Alliance; California Oatgrass Alliance
- Canyon Live Oak Alliance; Interior Live Oak Alliance
- Chamise Alliance
- Coyote Brush Alliance
- Douglas Fir Alliance
- Eucalyptus Alliance
- Knobcone Pine Alliance
- Monterey Cypress Stand
- Monterey Pine Stand
- Red Alder Alliance
- Redwood Alliance

Arroyo Willow Alliance and California Annual Grassland Alliance/California Oatgrass Alliance have the same composition as described in the "Año Nuevo State Natural Reserve Plant Life" section.

The Arroyo Willow Alliance is found adjacent to perennial streams and reservoirs, as it is at Año Nuevo SNR.

Canyon Live Oak Alliance and Interior Live Oak Alliance vegetation types are limited to the northwest portion of the park. Canyon live oak (*Quercus chrysolepis*) and California bay (*Umbellularia californica*) are dominant in the canopy of the former vegetation type, while interior live oak (*Quercus wislizenii*) is the dominant species in the canopy of the latter type. The understory for both vegetation series is usually sparse and open, but can include poison oak (*Toxicodendron diversilobum*), bush monkey flower (*Mimulus aurantiacus*), chamise (*Adenostoma fasciculatum*), mountain iris (*Iris douglasiana*), brittle-leaved manzanita (*Arctostaphylos tomentosa*), and various ferns.

The Chamise Alliance is shrub-dominated vegetation that occupies dry, upland locations in the park, supplanted by coniferous forests in more moist areas. Chamise (*Adenostoma fasciculatum*) and wartleaf ceanothus (*Ceanothus papillosus* var. *papillosus*) are the dominant species. Other commonly encountered species include brittle-leaved manzanita, toyon (*Heteromeles arbutifolia*), yerba santa (*Eriodictyon californicum*), bush monkey flower, bush poppy

The fourteen different vegetation types in Año Nuevo State Park range from the Coyote Brush Alliance that dominates the lowest coastal terraces, to the Redwood Alliance found in the moist shaded slopes of the upper Santa Cruz Mountains.

(*Dendromecon rigida*), and California huckleberry (*Vaccinium ovatum*).

The Coyote Brush Alliance is one of the most prevalent vegetation types in the park where it is dominated by coyote brush, and to a lesser extent poison oak and California coffeeberry. Like the preceding vegetation, the herbaceous layer is sparse or lacking.

There are extensive areas in the park that are vegetated with the Douglas-fir (*Pseudotsuga menziesii*) Alliance. Redwood (*Sequoia sempervirens*) and tan oak (*Lithocarpus densiflorus*) are common constituents of the canopy, but in fewer numbers than the dominant Douglas-fir. Commonly encountered plants in the shrub and herbaceous layers include sword fern (*Polystichum munitum*), wild ginger (*Asarum caudatum*), redwood sorrel (*Oxalis oregano*), hedge nettle (*Stachys bullata*), and California blackberry (*Rubus ursinus*).

The Eucalyptus Alliance, Monterey Cypress Stand, and Monterey Pine Stand vegetation types are limited in extent. As at Año Nuevo State Natural Reserve, stands of Monterey pine (*Pinus radiata*) in the park are the result of plantings of unknown genetic origin, although there are native occurrences less than a mile southeast of the park. Natural occurrences are considered a rare natural community by the CNDDB.

The Knobcone Pine Alliance occupies dry ridge top locations in the eastern portion of the park. Knobcone pine (*Pinus attenuata*) is the sole tree in a very open canopy. Common understory species include brittle-leaved manzanita, chamise, giant chinquapin (*Chrysolepis chrysophylla* var. *minor*), yerba santa, and bush monkey flower.

The Red Alder Alliance is limited to locations along Gazos Creek and Old Womans Creek. Dominant species in the upper canopy are red alder (*Alnus rubra*), big leaf maple, box elder (*Acer negundo* var. *californicum*), and black cottonwood (*Populus balsamifera* ssp. *trichocarpa*). The mid-canopy is dominated by arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*). Shrubs commonly found in the understory include California blackberry (*Rubus ursinus*), coastal red elderberry (*Sambucus racemosa* var. *racemosa*), blue elderberry (*Sambucus mexicana*), salmonberry (*Rubus spectabilis*), chain fern (*Woodwardia fimbriata*), canyon gooseberry (*Ribes menziesii*), and straggly gooseberry (*Ribes divaricatum*). Plants comprising the herbaceous layer include mugwort (*Artemisia douglasiana*), yarrow (*Achillea*

millefolium), poison hemlock, elk clover (*Aralia californica*), stinging nettle (*Urtica dioica*), periwinkle (*Vinca major*), miner's lettuce (*Claytonia perfoliata*), shining chickweed (*Stellaria nitens*), coltsfoot (*Petasites frigidus* var. *palmatus*), common scouring rush (*Equisetum hyemale* ssp. *affine*), and giant horsetail (*Equisetum telmateia* ssp. *braunii*).

The Redwood Alliance occupies upland locations of the park sufficiently moist to support this coniferous forest type. Redwood is the dominant tree, with lesser numbers of Douglas-fir, tan oak, and Pacific madrone (*Arbutus menziesii*). Common shrub and herbaceous species include California huckleberry (*Vaccinium ovatum*), thimbleberry (*Rubus parviflorus*), chain fern, western sword fern, creeping snowberry (*Symphoricarpos mollis*), redwood sorrel (*Oxalis oregana*), hedge nettle (*Stachys bullata*), slinkpod (*Scoliopus bigelovii*), red clintonia (*Clintonia andrewsiana*), redwood violet (*Viola sempervirens*), trail plant (*Adenocaulon bicolor*), western wake-robin (*Trillium ovatum*), false Solomon's seal (*Smilacina racemosa*), fairy bells (*Disporum hookeri*), striped coral root (*Corallorhiza striata*), spotted coral root (*Corallorhiza maculata*), and yerba de selva (*Whipplea modesta*).

Special Status Species

Of the 73 special plant species for San Mateo County reported by CNPS (2001), suitable to marginally suitable habitat exists within the park for 29 of these species, which are identified in Appendix I. One of these species, Choris's popcorn-flower (*Plagiobothrys chorisianus* var. *chorisianus*), is reported to occur north of Cascade Creek, but the exact location was not described. Eleven of the 29 species are CNPS List 1B plants, one is List 2, one is List 3, and sixteen are List 4. In addition to their CNPS status, four of the species are listed by the Sacramento Office of the USFWS as Species of Local Concern. These are bent-flowered fiddleneck (*Amsinckia lunaris*), coast rock cress (*Arabis blepharophylla*), stinkbells (*Fritillaria agrestis*), and Choris's popcorn-flower.

One species, Dudley's lousewort (*Pedicularis dudleyi*), is listed as rare by the State of California. CDFG's California Natural Diversity Data Base reports the occurrence of San Francisco popcorn-flower (*Plagiobothrys diffusus*) in San Mateo County and Año Nuevo State Park. This CNPS List 1B plant is listed as endangered by the State of California.

Please see **Appendix I** for a list of sensitive plant species for which suitable habitat exists within Año Nuevo SP.

Exotic Species

Past activities such as agricultural production and cattle grazing have contributed to the introduction of invasive exotic plants into the park. Species of concern are those that are invasive and/or difficult to eradicate, including Scotch broom (*Cytisus scoparius*), Hypericum canariensus, Monterery Cypress (Cupressus macrocarpa), Cape ivy (Delairea odorata), poison hemlock (Conium maculatum), and blue gum (Eucalytus globulus). In addition, Monterey pines (Pinus radiata) of unknown genetic origin have been planted just south of Gazos Creek Road and north of Whitehouse Creek, posing a threat of genetic contamination to the native stands in the area.

Año Nuevo State Park Animal Life

Año Nuevo State Park's location makes it an important link in San Mateo Coast wildlife corridors.

In the Santa Cruz Mountains past and ongoing land use practices especially logging have created a mosaic of wildlife habitats: pristine native habitats, habitats in various stages of succession, and other lands that provide little or no wildlife habitat value, such as areas converted for agriculture, road development, and home sites/businesses. The once pristine and fairly extensive redwood forest habitat has undergone the most change from pre-Euroamerican conditions. The varied habitats represented in Año Nuevo SP, combined with the strategic connection at locations along its boundary to Big Basin Redwoods SP, Butano SP, Año Nuevo SNR, and other public open-space lands, make this park very important for wildlife. The park's connectivity to other California State Park units, including the extensive system of regional and county parks, provides important movement corridors for wildlife between the San Mateo coast and native habitat areas within the Santa Cruz Mountains bioregion.

The lower elevations of Año Nuevo SP are predominantly coastal scrub and annual grassland, with patches of coastal oak woodland. The coastal oak woodland found in Año Nuevo SP offers wildlife dense evergreen tree cover and an abundance of food sources, in particular acorns. Acorns are critical for many native wildlife species in fall and early winter, when many other plants are finished seeding for the year. Moving up into the more protected canyons, redwood and Douglas-fir forests become the dominant habitat types. A variety of wildlife species that depend on these forested habitats can be found in the redwood and Douglas-fir. At a few locations on the higher ridges of the park, closed-cone pine-cypress habitat can be found. Flowing down the canyons and through the forest, a number of creeks pass through the park on their way to the ocean, providing riverine

and montane riparian habitat for wildlife. These stream corridors provide important movement corridors for animals, as well as critical food and water. Refer to **Figure 9** for the distribution of habitats in Año Nuevo SP, which are classified using California Department of Fish and Game's California Wildlife Habitat Relationships System.

Amphibians

The redwood and Douglas-fir forests of Año Nuevo SP provide rich, moist habitat for amphibians. Rough-skinned and California newts (*Taricha granulosa* and *T. torosa*) can be found moving through the forest understory and in creeks and ponds, which they depend on during their larval stages. Salamanders can also be found in this habitat, including arboreal salamanders (*Aneides lugubris*) and California slender salamanders (*Batrachoseps attenuatus*), as well as ensatinas (*Ensatina eschscholtzi*) which thrive under fallen and rotting logs in the moist forest duff. Ponds in the park are home to Pacific tree frogs (*Hyla regilla*) and California red-legged frogs (*Rana aurora draytonii*).

California newt on Cascade Falls Trail, Año Nuevo SP

Reptiles

A variety of species of lizards and snakes can be found in Año Nuevo SP. Western fence lizards (*Sceloporus occidentalis*) are common inhabitants of a number of the habitats including coastal scrub and coastal oak woodland, and northern alligator lizards (*Gerrhonotus coeruleus*) can be found at the forest margins in the park. Ponds and creeks support aquatic garter snakes (*Thamnophis atratus*), the San Francisco garter snake (*T. sirtalis tetrataenia*), and the Southwestern pond turtle (*Clemmys marmorata pallida*). The adjacent upland habitats such as annual grassland are home to ringneck snakes (*Diadophis punctatus*) and gopher snakes (*Pituophis melanoleucus*).

Birds

The Douglas-fir and redwood forests of Año Nuevo SP are home to birds such as the Steller's jay (*Cyanocitta stelleri*), brown creeper (*Certhia americana*) and winter wren (*Troglodytes troglodytes*), a tiny bird with a bursting, musical song that echoes through the forest. Along the streams of the park, migrants such as Wilson's warblers (*Wilsonia pusilla*), Swainson's thrushes (*Catharus ustulatus*), and black-headed grosbeaks (*Pheucticus melanocephalus*) nest in the montane riparian habitat. In the more open coastal scrub and grasslands of the park, a number of species are present, including wrentits (*Chamaea fasciata*), white-crowned

sparrows (*Zonotrichia leucophrys*), and Bewick's wrens (*Thryomanes bewickii*). Annual grasslands provide good hunting grounds for numerous species of raptors, including red-tailed hawks (*Buteo jamaicensis*).

Mammals

Mammals are present in every habitat type in Año Nuevo SP. Historic buildings onsite, such as the Cascade Ranch horse barn, provide roosting habitat for bats such as the big brown bat (*Eptesicus fuscus*) and myotis bats (*Myotis* spp.). California gray squirrels (*Sciurus griseus*) are present in the forested habitats of the park, and are closely associated with oaks (Zeiner, et al. 1990b). Larger species such as coyote (*Canis latrans*), bobcat (*Felis rufus*), and black-tailed deer (*Odocoileus hemionus*) can also be seen throughout Año Nuevo SP in annual grasslands, closed-cone pine-cypress, and other habitats.

Invertebrates

Invertebrates form the most diverse and abundant taxonomic group, and are present in all the habitats of Año Nuevo SP. Bright yellow banana slugs (*Ariolimax columbianus*) are present in and characteristic of the redwood forest of the park. Monarch butterflies (*Danaus plexippus*), with their striking orange and black wing patterns, can be seen in the park. Planted eucalyptus and other trees in the vicinity of the historic Cascade Ranch buildings have provided a fall roost site in the past for these migratory butterflies (California Department of Fish and Game 2005).

Special Status Animals

Año Nuevo SP is home to a number of special animals that are listed as threatened or endangered by the state and/or federal government, California fully protected, California Species of Special Concern, or are of local concern.

Special Status Amphibians

The California red-legged frog, a federally threatened species, is present in pond and riparian habitats of Año Nuevo SP. This species lives in dense, shrubby riparian vegetation associated with deep, still or slow-moving water (Jennings and Hayes 1994). Ensatinas are a type of salamander found under logs and in the leaf litter of redwood and Douglas-fir forests, and are a California Species of Special Concern.

Special Status Reptiles

The federally endangered San Francisco garter snake is the rarest and most colorful of the reptiles found in the park. The species is highly aquatic, and can be found in the park's freshwater emergent wetland habitats, ponds, and the Whitehouse Creek system. Southwestern pond turtles, a California Species of Special Concern, also live in the aquatic habitats onsite, and lay their eggs in adjacent annual grasslands.

Special Status Birds

A number of sensitive bird species occur in Año Nuevo SP. The combination of open and forested habitats makes for prime raptor hunting and nesting habitat. Species such as the northern harrier, white-tailed kite, and Cooper's hawk can all be found in Año Nuevo SP. Northern harriers (*Circus cyaneus*) and white-tailed kites (*Elanus caeruleus*) can be seen hunting over the open grasslands, and Cooper's hawks (*Accipiter cooperii*) hunt small birds and mammals in the coastal oak woodland and montane riparian habitats. Although Año Nuevo SP does not contain old growth redwood nesting habitat for the marbled murrelet (*Brachyramphus marmoratus*), it is likely that this endangered seabird uses corridors through the park to reach nesting areas further inland (CDPR, 1998). Purple martins (*Progne subis*), a California Species of Special Concern that nests in cavities, are present in the park. Other bird Species of Special Concern that may be seen in Año Nuevo SP include Vaux's swift (*Chaetura vauxi*), loggerhead shrike (*Lanius ludovicianus*), and yellow warbler (*Dendroica petechia*).

Of particular concern is the federally threatened and state endangered marbled murrelet. It has been listed because of population declines throughout its range in California, Oregon, and Washington primarily due to habitat loss (United States Fish and Wildlife Service 1997, Pacific Seabird Group 2003). Current major threats include logging or modification of habitat, oil spills and predation of eggs by Steller's jays and common ravens. Egg predation is particularly evident in the Santa Cruz Mountains population. Marbled murrelet surveys in the Santa Cruz Mountains have shown a drastic reduction in detections of murrelets in the past 10 years. At Big Basin Redwoods SP the average number of detections has gone from 55 in 1995 to less than 5 in 2005. The numbers from other nearby parks also show a similar decline (Suddjian 2005).

Special Status Mammals

Numerous bat species that are recognized as California Species of Special Concern and/or High Priority by the Western Bat Working Group are potentially present in Año Nuevo SP, including the pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), long-legged myotis (*Myotis volans*), fringed myotis (*Myotis thysañodes*), and western mastiff bat (*Eumops perotis*). The Santa Cruz Mountains region is home to a population of mountain lions, and Año Nuevo SP is an important component of a network of protected lands that lions range through. Large predators like these are critical components of healthy ecosystems.

Please see **Appendix J** for a list of sensitive wildlife species for which suitable habitat exists within Año Nuevo SP.

Aquatic Life

The ponds and creeks of Año Nuevo SP support aquatic wildlife, including rare and endangered species. Aquatic amphibians and reptiles are present in addition to fish. Federally threatened steelhead migrate from the ocean inland to spawn in the streams found in Año Nuevo SP, including Whitehouse Creek (California Department of Fish and Game 2005). The steelhead spawning in the streams of the reserve are part of the Central California Coast Evolutionarily Significant Unit (ESU). State endangered and federally threatened central California coast coho salmon (*Oncorhynchus kisutch*) are present in Gazos Creek (California State Parks 2001). Additionally, some of the creeks within the park could contain resident species such as prickly sculpin (*Cottus asper*) and coast range sculpin (*Cottus aleuticus*).

Exotic Animals

A number of non-native, introduced animal species are found in Año Nuevo SP. Wild (feral) pigs (Sus scrofa) have been documented in the park. Pigs can cause significant damage to natural resources, disturbing soil, uprooting native plants, and harming ground-nesting birds and other native wildlife. Bullfrogs (Rana catesbeiana) may be present in the ponds onsite. Native to the eastern United States, bullfrogs are opportunistic feeders that have contributed to declining populations of native amphibians and other native species statewide. The introduced European starling (Sturnus vulgaris) is also found in Año Nuevo SP. This bird species is detrimental to native bird populations because it aggressively competes with native cavity-nesting birds for limited nesting sites.

CULTURAL RESOURCES

The study area encompassing Año Nuevo SNR and SP, Butano SP, and Big Basin Redwoods SP contains a great variety of landscapes and habitats. The ecological productivity of this area has been shaped by past geologic, climatic and cultural events. Of principal interest to planning are the relationships of past human societies to the landscape and the archaeological evidence of their developments.

In addition to the historic structures and associated archaeological features contained within the boundaries of the study area, approximately 40 prehistoric archaeological sites are currently recorded within Año Nuevo SP, a dozen more at Butano SP and another dozen or so at Big Basin Redwoods SP. See **Figure 11** for general distribution of cultural resources. The latter two parks have not been as thoroughly surveyed as Año Nuevo and it is likely that many more sites will be discovered.

The archaeological record is one of the only places where we can obtain data on the earliest history of the people, landscape, and ecology of the study area. Archaeological sites scattered along the upland ridges within Butano SP and Big Basin Redwoods SP have been impacted by historic logging activities, road grading, and trail construction. There is a rich record of both prehistoric and historic land use represented within the study area and these resources can greatly enhance the public experience in the parks through appropriate interpretation and site stewardship.

Archeological studies have uncovered extensive evidence of a long history of human presence at Año Nuevo, and revealed the importance of the Año Nuevo SNR area to prehistoric Native California Indian societies.

Año Nuevo SNR and SP provide good examples of what can be learned about the prehistoric groups who inhabited coastal California. Past archaeological investigations at Año Nuevo SNR have uncovered evidence of a long history of human interaction with the local ecology. The magnitude of the sites and the nature of their contents have provided clear evidence of the importance of the Reserve to prehistoric Native California Indian societies. These fragile archaeological resources along the coastal edge are threatened, and many have been destroyed. In addition to examining the archaeological record, it is important to understand what we know from the written record through ethnographical studies.

Ohlone Lifeways

Ethnohistoric observations, written at the time of first European contact in 1769 and during the subsequent colonization, document that several different tribelets controlled territory

along the peninsula coast and in the Santa Cruz Mountains. Populations seasonally relocated from the coastal edge to locations in the nearby Santa Cruz Mountains (Palou, Vol. 3 in Bolton 1926:3:293-303; Crespi in Stanger and Brown 1969:88). Spanish Mission records show that coastal communities ultimately joined with a larger Bay Shore alliance network (King 1994:203-228; Milliken 1983; 1991). The study area was controlled by a single independent Native California Indian political entity recorded by the Spanish missionaries as the "Quiroste" (pronounced *Keer-osh-tee*) nation. The Quiroste were one of fifty politically independent tribelets that comprised the larger Ohlone group. The Ohlone's cultural sphere existed within the San Francisco and Monterey Bay regions. Information about the Quiroste can be found in historic accounts and, more importantly, from the archaeological sites scattered throughout the landscape.

The Quiroste were a prominent and wealthy tribe who lived in the Año Nuevo area at the time of Spanish contact.

The Quiroste were a significant and wealthy tribe in the central California coast region. This wealth was based on the bountiful resources and location of their territory. The location that the Quiroste tribe called home was situated between the rocky coast and forested coastal mountains. Their wealth was derived from the materials for tool-making and currency found on their territory. The preferred material for stone tool making in the region was Monterey chert. The main quarry for Monterey chert was located on a seldom exposed reef off of Ano Nuevo Point. The Quiroste became the sole suppliers of this highly prized lithic material to the surrounding regional tribes. Another source of their wealth were olivella shells which were used as currency in prehistoric California. As the olivella shell bead currency trade began to expand throughout prehistoric California in the mid to late Archaic Era, the Quiroste gathered the shells from their coastal environs and monopolized the developing prehistoric economy. In essence, they became the treasury of these shells and could control the export of this highly valued resource. These assets and wealth, along with their natural territorial fortifications of mountains and sea, allowed the Quiroste to establish their strength and prominence as a Tribe.

The prominence of the Quiroste tribe was heightened by their role in a significant European contact event in history. In October 1769, an ailing expedition led by Gaspar de Portola of Spain entered the Quiroste village on Whitehouse Creek. The Quiroste welcomed the foreign visitors and nursed them back to health. After a few days they offered guides to the expedition and led them out of their territory. The Portola Expedition went on to "discover" the great bay of San Francisco. If the Quiroste had not welcomed and cared for

the explorers, the expedition might not have gone on to San Francisco Bay.

The strength and prominence of the Quiroste was challenged as Spanish Missionaries sought to subjugate the native peoples of the area. In response to the Spanish challenge, the Quiroste committed the only armed resistance against the northern Franciscan Missions of California when they attacked Mission Santa Cruz in 1791. This unsuccessful resistance resulted in the Quiroste becoming one of the last tribes of the area to be incorporated into the Mission system. (See page 2-58 for further information on the Quiroste attack of Mission Santa Cruz.)

Quiroste winter village.

When the Spanish missionaries first arrived, the native people lived in groups that included extended families or clans that formed villages. Feuds between members of some villages were not uncommon, but relatives sought to avoid conflicts through payments made in shell beads. Within the villages, clan members belonged to different clubs or societies. Membership usually involved initiation where novices learned the customs of the organization, and used shell beads to pay dues. Different membership-driven organizations sponsored ceremonial events, each having their own distinctive costumes and regalia. Abalone (*Haliotis*) shell pendants were frequently used as badges of membership and rank. Together the various organizations formed the fabric of society and directed the storage and redistribution of surplus food resources, aided in the construction of village buildings, planned hunting strategies and followed the seasonal cycles

of nature that would determine where and when they should relocate the villages and clans.

Both men and women could be members of various societies; and an elite group of women, called *Mayen*, directed the construction of large circular dance houses that were excavated several feet below the surrounding ground level. The *Mayen* selected the most virtuous individuals to represent various spiritual forces that were personified in dances and ceremonies. This practice was called *Kuksui*. *Kuksu* dancers wore woven feather bandoleers made from woodpecker quills placed edge to edge that draped over their foreheads and down their shoulders. Young children were initiated into the various societies and were taught proper manners and customs acceptable to their community by their elders. Once membership was invoked, they earned status and rank over the term of their lives.

Men typically governed the political structure of the village and did the hunting while women handled the gathering and processing of vegetal foods. Each village had a "head man" and the many villages throughout the Santa Cruz Mountains and coast each had its head man. Men wore little or no clothing, a trait common among hunting people who must avoid retaining the human scent so that they can better blend in with their natural surroundings. Women wore a braided tule reed skirt with a rear apron made from finely tanned deerskin.

During the historic period, the Spanish arrival resulted in dramatic environmental changes. These changes led to the subduing of the local coastal people. Those who were not relocated to missions suffered from poor nutrition and repeated exposure to introduced diseases that decimated their population. Nonetheless some survived and their descendants continue to live in the region (Milliken et al. 1993). Today the descendants of the mission people use the designation of *Ohlone* to encompass the families from as far south as Soledad and Monterey, all the way northward to Livermore and San Francisco. Some of the Ohlone have further subdivided into discrete family groups such as the Carmel Band of Rumsen, the Pajaro Valley Indian Association of Watsonville, the Mutsun of San Juan Bautista, the Amah Band of Gilroy, and the Muwekma Tribe of Santa Clara Valley. The descendants of the Ohlone continue to visit Año Nuevo, Butano and Big Basin Redwoods State Parks, and participate in the archaeological research.

Prehistory

Archaeological findings from Año Nuevo SP and other peninsula coastal sites reveal a succession of several cultural periods spanning the Early, Middle and Late Holocene ages. These sites have provided interesting insights into the local cultural prehistory and their adaptive responses to episodes of significant environmental change.

The study area overlays a larger fabric of dynamic cultural transformations that began sometime over 12,000 years ago when people first arrived along the west coast of North America. Legacies of dramatic (even cataclysmic) episodes of environmental changes have lead to the recognition of four major climatic shifts that have transpired during the time of human occupation. These changes define the Late Pleistocene, Early, Middle and Late Holocene epochs.

Approximately 10,000 years ago, during the Early Holocene period, the progressively rising sea began to encroach up the level coastal terrace terrain that once extended considerably farther offshore. The sea reached its present height by Middle Holocene times, some 6,000 years ago (Bickel 1978). With the stabilization of sea level, marine and terrestrial plants and animals developed distinctive behaviors and territorial distributions that allowed for predictable, patterned resources important to human societies. Cyclical patterns of seasonal food availability, and repetitive use of these resources by the early people, have resulted in the distribution of extensive archaeological deposits at locations where residential and/or task specific activities became established.

During the Middle Holocene (6700 to 3400 BC), stone mortars and pestles appear in the archaeological record. These artifacts were used for acorn processing, indicating indicate that acorns had increased in importance as a dietary staple. This addition augmented an earlier reliance on hard seeds (tarweeds, clarkia seeds, and others) that were milled through the use of handstones and milling slabs. With the increasing reliance on acorns as a food staple, access to productive oak woodlands became a primary factor in the subsistence economy.

Coastal sites contain a greater frequency and diversity of large side-notched chert projectile points and knives that are identical to Early period south coast forms (Hildebrandt and Mikkelsen 1991; Hylkema 1993:99-119; Hylkema 2002; Jones 1993; Jones and Hylkema 1988; Olson and Payen 1969). Regionally, the Monterey chert outcrop at Año Nuevo State Natural Reserve came to function as the principal source for

chipped stone tool material, including projectile points, for coastal people. These robust point forms suggest that there was an emphasis on hunting large game, most likely tule elk.

Within the study area, a specific site in Quiroste Valley (Whitehouse Creek) (SMA-196) dates to this time. By the end of the Middle Holocene the overall artifact assemblage along with a combined dietary focus on ocean mussels, marine mammals and deer or elk, became the precursors to a consistent reliance on coastal resources that persisted on through most of the Late Holocene. The ancestral Ohlone Indian people of the study area lived in a landscape of great ecological diversity. Their environment brought them in close proximity to marine, sandy beach, rocky shore, tidal and freshwater marsh, grassland prairie, oak grassland savanna, riparian, chaparral, mixed hardwood, and evergreen forest habitats.

Archaeological evidence from sites in the study area shows that productive ecological zones, in terms of native subsistence needs, involved littoral and grassland habitats concentrated along the narrow coastal terraces and upland meadows in the Santa Cruz Mountains. Within the upland meadows interspersed along Ben Lomond ridge above Big Basin, archaeological deposits do not reveal any reliance on interior San Francisco Bay resources, but do indicate a close dependence on coastal resources. It is likely that the meadows concentrated game into narrow resource patches and repetitive seasonal use of the uplands accounts for the substantial depth of archaeological deposits in these areas. The types of bones found in these sites suggest that this seasonal foraging occurred in the summer. In contrast, a contemporaneous site at Año Nuevo contained abundant adult and juvenile northern fur seal bones that point to a winter occupation of the coastal terrace.

The ancestral Ohlone used a large number of plants for food, medicine and tools. Acorns were a staple although the rugged terrain and dispersal of oak forest within the coastal zone effectively constrained access to acorns (Hylkema 1991:40-46). Sporadic distributions of bedrock mortar milling stations along the upper ridgelines and slopes on the interior Santa Cruz Mountains and within Big Basin Redwoods SP reveal the laborious extremes that coastal people experienced to add acorns to their diet.

Although the ancestral Ohlone did not develop a maritime tradition, offshore marine resources were actively pursued. Most open coastal sites contain the remains of mollusks, fish, a variety of sea mammals, and ocean-going sea birds such as

cormorant, pelican, tufted puffin, marbled murrelet, and others (Hylkema 1991; Hylkema with Hall 1985). While the total volume of shell represented at open coastal sites within the study area varied in accordance with the depth of archaeological deposits and the duration of site occupation, the range of species present was found to be remarkably consistent through time. Most notably, the overall contribution of mollusks to the diet remained consistent.

In addition to the shellfish, the hunting patterns along the peninsula coast changed to include different mammals from both land and sea. Marine mammals were hunted with clubs, harpoons, spears and darts. Elephant seal bones are absent from the regional archaeological record although many other marine mammal species are represented at sites spanning the past 5000 years (Hylkema 2002). Of particular interest are the remains from the northern fur seal (*Calorhinus ursinus*); one of the most important discoveries of northern fur seal bones occurred at Año Nuevo (Hylkema 1991).

Sea otter remains at Late period coastal sites increased in frequency over Middle period Año Nuevo Phase sites. The range of bone elements indicated that they were most likely hunted more for their furs than their meat (Hylkema with Hall 1985). It is likely that they were harpooned among the kelp beds from tule reed boats. Although this watercraft was unsuitable for open sea, at least one historic account mentions that they were used offshore below the sheltered reach of Point Año Nuevo (Fages 1937:70).

The local coastal economy remained constant until AD 1100. Shortly after that date the coastal way of life began to change. Other Native California Indian groups from the interior areas of the state created a higher demand for various shells that were used as markers for wealth and status. The shells gave the coastal groups a valuable trade item. Evidence of this trade was discovered in an archaeological site at Big Basin Redwoods SP with the discovery of five projectile points that were made from obsidian that came from Napa. This stone tool source supplemented local Monterey chert, some of which was quarried from a partially submerged Monterey chert outcrop at Año Nuevo SNR.

Summary of Peninsula Coast Prehistory

Archaeological data from sites throughout Central California have shown a steady progression to a specialized, collector adaptive mode that emphasized reliance upon storable vegetal food resources, acorns in particular. This trait is often cited as the principal reason for demographic patterns

associated with the cultural development of the region (Baumhoff 1963:155-236; Basgall 1987:21-52; Mayer 1976:30; and others). By the terminal phase of the Middle Holocene many archaeological sites began to exhibit greater social organization in tandem with increased use of mortars and pestles. Hildebrandt (in Elsasser 1986: 97) has demonstrated that an increased reliance on an acorn economy emerged as early as 2500 BC. Starting at that time, human burial patterns changed when various communities began burying deceased members of their groups within their villages. Social distinctions also appeared in the form of unique grave associated artifacts distributed among a few individuals. This pattern continued throughout the subsequent Late Holocene.

With the advent of the Late Holocene, relatively small, mobile communities perpetuated an older generalized subsistence economy that emphasized a meat diet supplemented with processed hard seeds, acorns, fish and mollusks. Storage of food resources was not a critical aspect of the coastal lifeway, and a foraging economy was the optimal strategy (Hylkema 1991). However, after a period of prolonged drought between the years of AD 800 to 1100 (Jones and Kennett 1999), a transformation in the regional socio-political structure occurred and hierarchically ranked societies emerged. Logistically organized labor groups extended out from residential bases and returned with resources that were frequently stored for longer periods of time, forming what has come to be known as a collector economy. An increasing emphasis on wealth resulted in an increasing demand for Abalone *(Haliotis*) and Olive snail *(Olivella*) shells. These materials were used as markers of wealth and status by people throughout the interior of central California, and this put the coastal people in a unique position as providers (Hylkema 2002). By ca. AD 1100 to the 1770s an elaborate social hierarchy had emerged, consistent with the ethnographic record.

Historical Overview

Spanish Period

The land encompassing what is now California remained largely un-exploited during its control by Spain. During the 1540s, Portuguese explorer Juan Rodriguez Cabrillo, acting on behalf of the Spanish Crown, led the first naval expedition to explore the coast of what is now California, and claim the land for Spain. While some scholars claim he made no note of Año Nuevo Point, others claim he called it "Cabo de Nieve" (Snowy Cape). Cabrillo and other early explorers did, however, note the extensive populations of seals and other

marine mammals during their journeys. Years later, Sebastian Vizcaíno was sent to explore the coast of California in 1602. Reaching Año Nuevo Point on New Years day of 1603. Father Antonio de la Ascension, chaplain and diarist on the expedition, labeled the place on his map, "Punta de Año Nuevo" (Le Boeuf 1975:1; Holland 1963:149). Following Vizcaíno's expedition, there was virtually no Spanish exploration of Alta California for over a century and a half.

In 1768, Don Gaspar de Portolá was placed in charge of an expedition to establish settlements in Alta California. After months of extremely difficult travel, the party reached Monterey Bay. From there they continued north, eventually sighting Año Nuevo Point, which they believed to be the northernmost point on the Monterey Bay. The expedition camped at Whitehouse Creek, trading beads with the Indians, whom they termed "Costaños," though the Indians identified themselves as the Quiroste. On Monday, October 23, the expedition encountered a large Indian village in what is now Año Nuevo SP. A member of the expedition, Miguel Costansó, provided a description of the village:

> We moved the camp a distance of two leagues from the Cañada de la Salud [Waddell Creek], and camped near an Indian village, discovered by the scouts, situated in a pleasant and attractive spot at the foot of a mountain range and in front of a ravine covered with pine and savin (redwood), among which descended a stream from which the natives obtained water. The land appeared pleasant; it was covered with pasture, and was not without fire wood… The Indians, advised by the scouts of our coming to their lands, received us with great affability and kindness, and, furthermore, presented us with seeds kneaded into thick pats… In the middle of the village there was a large house, spherical in form and very roomy; the other small houses, built in the form of a pyramid, had very little room, and were built of split pine wood. As the large house so much surpassed the others, the village was named after it (Costansó 1911).

The Spanish called this camp Casa Grande because of the large lodge house there. The expedition continued north, led by guides from the village. Over the next few days they encountered several more villages, on their way to San Francisco Bay. Upon their return, the expedition retraced much of their original route south, again passing through the Año Nuevo region beginning on November 18. Instead of camping at Casa Grande (which they found abandoned), they camped at Año Nuevo Creek on November 19.

Later, an inland route from San Francisco Bay to southern California was blazed by Spanish soldier Pedro Fages, effectively isolating the Año Nuevo region for many years thereafter. Because the area was now off the beaten track, a mission in what is now Santa Cruz was established relatively late, in 1791.

The models for Ludwig Choris's 1816 "Portrait heads of Indians" were residents of either Mission San Francisco de Asís or Mission San Carlos Boromeo.
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Missions

To counter encroachment by foreign powers, the Spanish used three separate institutions in their attempts to settle and control California. These included missions, presidios (military forts), and pueblos (secular towns). A mission was generally established near a concentration of native peoples, and its main purpose was to convert them to Christianity and teach them farming, ranching, and other "civilized" practices. Mission San Francisco de Asis, also commonly known as Mission Dolores (founded in 1776), and Mission Santa Clara (1777) attracted some of the Quiroste, while Mission Santa Cruz contained 553 Native California Indians soon after its founding. Unfortunately, European diseases took their toll upon native California Indians, decimating their numbers.

The Año Nuevo region was used for the grazing of livestock from the Santa Cruz mission, which reportedly owned over 2,900 head of cattle. Native California Indians tended many of these mission herds in what were termed the ranchos, or outlying grazing areas. By 1825, 16 men and one woman were stationed somewhere in the Año Nuevo region to attend to these herds, which extended as far north as Pescadero. The cattle produced not only beef but hides and tallow, which were the main exports for the area.

Quiroste Attack on Mission Santa Cruz

A little more than twenty years after greeting the Portola Expedition, the Quiroste again enter into the historical account. This time it is due to their aggressive behavior towards Mission Santa Cruz.

By 1791 members of the Quiroste were entering into the missions for conversion, either voluntarily or not. One man, an elder tribal leader named Charquin, fled Mission San Francisco de Asis's outpost of San Pedro, near present day Pacifica just days after his reported baptism. He led a small band of renegade Quiroste in the Santa Cruz Mountains. He was eventually captured and sent to the Presidio of Santa Barbara. Despite his capture, the Quiroste continued their resistance. Spanish soldiers, sent out by the missionaries, raided the Indians camp and returned the ones they have

caught to the missions. The Quiroste quietly gathered their remaining forces and attacked Mission Santa Cruz on the evening of the 14th of December 1793. Padre Fermín Lasuén, Serra's successor as president of the missions in Alta California, wrote of the assault: "I have found out for certain that on the night of the fourteenth of last December the pagan, Indian, and some Christian Indians, from rancherías to the northwest of that mission made an assault on the guard, wounded the corporal in the hand, and another soldier in the shoulder, and set fire to the roof of the corral for the lambs, and the old guard house. The corporal fired a few shots, and with that they withdrew without serious injury to either side." (Lasuén [1785-1803] 1965: 299).

This was the only time one of the Franciscan missions was attacked in Northern California. The attackers are eventually caught and imprisoned. The Spanish exert their power and control of Alta California and its peoples. The Quiroste resistance was soundly defeated. Charquin died in the stockade of the Presidio in San Diego, and what was left of the once prominent Quiroste tribe was forced to work and die in the Mission system (Milliken, Randall *Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*. Ch. 6; Ballena Press, Menlo Park;1995).

Mexican Independence

Following the successful separation of Mexico from Spain in 1821, several major changes occurred in California. Foremost among these changes was the opening up of the area to outside trade. Both British and American companies became dominant in the profitable hide and tallow trade during this period. The mission system also declined in power and importance following independence. In 1834, the entire system was dismantled, and all land holdings were secularized and subdivided. The mission lands were granted to the government to be deeded to private citizens.

The diseño, or land grant map, for Rancho Punta del Año Nuevo
Reproduced with permission of Bancroft Library, University of California.

Mission Santa Cruz was included in the secularization, and mission lands were divided and parceled out to prominent Mexican citizens. In the San Mateo coast area, several rancho parcels were granted, including Rincon de la Ballena (between Bean Hollow and Gazos Creek), and Rancho Butano to its north. Soon thereafter, however, a grant of land was given to Simeon Castro, which included both of the above ranchos. The resulting legal dispute was not resolved until many years later. Castro's Rancho Punta del Año Nuevo consisted of over 17,000 acres, including much of what is now Año Nuevo SP and SNR, as well as Butano SP. By 1842, Castro took possession of the rancho, although he continued to live

in Monterey. Largely through caretakers, he ran large herds of cattle on the land, as well as grew wheat, corn, melons, and potatoes (Stanger 1966:35).

Early Anglo Settlement

Following the Gold Rush, large numbers of Americans began arriving in California. In 1850, California became a state, and thousands of acres of rancho property began to be acquired by American citizens. In 1851, Isaac Graham of Santa Cruz acquired the Rancho Punta del Año Nuevo from the Castro heirs. Graham leased much of the land out for cattle ranching. Some reports claim that he constructed one of the first houses in the area, known thereafter as the Isaac Graham House (or the White House) on Whitehouse Creek. It is more likely that the house was built by one of his lessees, a man named Van Houghton, in 1851. Because of financial troubles, Graham was unable to hold on to the property, and it was sold at public auction in 1862 to John H. Baird, for $20,000. Baird quickly turned the property around to Loren Coburn for $30,000. Coburn purchased both the Rancho Butano and Rancho Punta del Año Nuevo with his brother-in-law Jeremiah Clark. After buying out Clark, Coburn became the sole owner of both these immense ranches. Coburn was a shrewd businessman, and soon leased much of the land to a northern California family dairy enterprise by the name of Steele.

Steele Ranch

Frederick Steele was the first in the family to come to California. He was stationed in California with the U.S. Army following the end of the Mexican War, and described the state in glowing terms to his brothers in Ohio. George Steele and his cousin Rensselaer were the next to come west in 1855, settling in Sonoma County. Next came Rensselaer's wife and two children, together with Edgar Willis Steele and his parents in 1856. Isaac Chapman Steele arrived in 1857 with his wife and son. Rensselaer and his wife, Clarissa began to make cheese, shipping it to San Francisco, where it was eagerly awaited. The demand for more cheese caused the Steeles to expand their herd. Beginning in 1857, George, Isaac, Edgar, and Rensselaer leased land in Marin County. The dairying operations continued to be profitable, and the Steeles sought out new country in which to expand their herds. In 1861, Isaac surveyed the coast south of Point Reyes, and found ideal grazing lands at the Rancho Punta del Año Nuevo.

In 1862, the Steeles leased 17,763 acres from Coburn for $6,000 per year for ten years plus all taxes. A stipulation allowed for the Steeles to buy 7,000 acres of the ranch south

of Gazos Creek when the lease expired, at $6 per acre. The Steele brothers established a firm consisting of Isaac, Edgar W. and George Rensselaer, along with Horace Gushee and Charles Wilson. Wilson never took an active part in the dairy operations, and Gushee served as the exclusive distributor for the dairy's cheese.

Isaac built a small shack at Green Oaks Creek in December. Soon thereafter, his cousin Rensselaer built a house on his portion of the ranch. By the fall of 1862, E.W. Steele and Gushee were busy buying and branding cattle in order to populate the new ranch. An additional 1,100 head of cattle were eventually purchased. In order to improve their herd, the Steeles purchased Holstein-Fresian animals to breed with the native stock. While George and Edgar remained in Marin County with part of the herd, the rest was shipped on the steamer *Petaluma* and schooner *Cochief* to the mouth of Gazos Creek at the end of December 1862. After the Indian laborers returned to Marin County in 1864, the Steeles hired many Chinese laborers from San Francisco (Stammerjohan 1997:10).

The Steele Dairies initially consisted of five distinct ranches: Green Oaks Ranch (Isaac Chapman), Pocket Dairy, Cascade Ranch (Rensselaer), White House Ranch, and the Cloverdale Ranch (Edgar Willis).

Soon after arriving, the Steeles gave William W. Waddell (who was living in the canyon south of Año Nuevo) a right-of-way across their land in order to build a landing and wharf. He chose a spot approximately 500 yards west of Año Nuevo Creek, where the water was deep and there were no dangerous reefs. By 1864, Waddell had completed his 700-foot pier with a swinging chute at the end to serve deep water schooners. By 1867, the wharf was handling two million feet of lumber per year (Stanger 1963). By the 1870s, the Steeles had constructed a saw mill on Año Nuevo Creek, hauling the lumber to Waddell's wharf. Rensselaer also built a saw mill in the canyon above his home at Cascade Ranch. Another mill was run by the Chandler and Herrington Company on Whitehouse Creek, which produced shingles, lumber, and tan oak.

Waddell extended a railroad from his mill to the landing and wharf. This right-of-way eventually served as the route for the county road, which evolved into Ocean Shore Highway (State Highway 1). For the next 13 years, this wharf served Waddell's mill, together with other mills in the region. The presence of the wharf helped to create a small community which became known as Waddell's Landing. It contained a

lumber yard, warehouse, and store, as well as other buildings. Rensselaer's brother, Horace Samuel Steele, became the postmaster and store owner. The store itself remained in place until the early 1950s, though portions of it were used in other structures on the Dickerman ranch (Arena 1978:2).

Although 1863 was a disastrous year for most cattlemen across the state, the Steeles appeared to have been protected from the calamity. The drought that struck so severely in southern California was not readily felt in the relatively moist San Mateo Coast. In addition, the demand for cheese was high in California, and it could generally be sold for $.25 per pound. The Steeles gained fame for their creation of a huge 3,850-pound block of cheese (produced at the Cascade Ranch), which was displayed at the Mechanic's Fair in San Francisco in 1864. The block was sold for $2,820, and the proceeds donated to the Sanitary Fund of the Union Army. The Steeles prospered, selling both cheese and butter, with Waddell's wharf serving as a point of embarkation.

The Steele Ranches extended from Gazos Creek on the north to the Santa Cruz County line on the south. By 1867, it was reported that these ranches consisted of 15,000 acres and 750 cows. There were also 2,000 head of steers, calves, and young cattle, as well as hogs. Wild grasses and oats generally provided enough food for the animals, although they were supplemented with grain, hay, and straw during periods of extreme drought.

Because their lease to the ranch in Marin County expired in 1866, Edgar and George Steele decided to purchase 45,000 acres in San Luis Obispo County. The purchase ended up costing the Steele family considerably, as title to the land soon became tied up in litigation. Meanwhile, the Steeles exercised the option to buy 7,000 acres of the Año Nuevo ranch, while the northern portion of the land reverted to Clark and Coburn (Steele 1948:10). By the early 1870s, the Steele Brothers were reportedly the second largest owners of milk cows in the state (Reese 1964:4). In 1872, the Steele Brothers dissolved their partnership, although each of the members continued in the dairying business.

The 1880s saw bright prospects for the growth of coastal San Mateo County. In large part, this hope was driven by expectations for completion of the Ocean Shore Railroad (Alley 1883). The railroad was never completed, however, and fortunes declined. By the early 1880s, Waddell's Wharf had been destroyed (Davidson 1889:152), and was never rebuilt.

While George and Edgar settled in San Luis Obispo, Isaac and Rensselaer remained in the Año Nuevo area. The dairy operations continued into the 1880s, at which time the holdings were subdivided among their descendants. Isaac and his wife Hulda Emeline had three children (the fourth died in infancy): Frederick, Effie, and George. In 1878, Effie Steele married Edwin Dickerman, who was working at Waddell's Wharf. They received that portion of Isaac's ranch that now encompasses the reserve headquarters area. Their ranch was referred to by many names, including the La Punta Ranch, Cypress Point Ranch, as well as the Dickerman Ranch. Over the ensuing years, they constructed multiple buildings on their property. Timbers from the destroyed Waddell Wharf were used in the construction of a large dairy barn (see below—Dickerman Barn), and several buildings at the landing (about ¼ mile away) were moved to the ranch, including a residence and general store.

Irrigation

Following World War I, an economic depression struck the dairying business in the United States, and many small dairies went out of business. The Steele ranches were not immune, and an eventual conversion to row crops was begun. The Steele Family were pioneers in irrigation and farm conservation, and had already begun planting row crops in the early 1900s. Their irrigation system was one of the largest and earliest in the area. Agreements between the various area ranches resulted in the creation of several water supply projects. One of the first was a dam constructed to increase the capacity of Lake Elizabeth, which stored water from Whitehouse Creek and Cascade Creek. The dam was later enlarged, increasing the lake's capacity further. In 1926, William Steele entered into an agreement with Theodore Hoover, the owner of the Rancho del Oso to the south and brother of the future president to bring water from Waddell Creek to Green Oaks Ranch. Water was also provided to other nearby ranches as a result of this project, and used to irrigate crops such as artichokes, Brussels sprouts, broccoli, strawberries, lettuce, and cabbage. Though the ranches continued to produce cheese up to the 1920s, the Steele family had shifted from dairy to field crops by the 1930s. A sprinkler irrigation system, one of the first such on the coast, was put in place during this period.

The adopted daughter of Edwin Dickerman and Effie Steele, Flora, eventually married Jay Steele. Upon Flora's death, portions of the ranch were granted to the state. Their daughter Mildred married George Elliott, and they lived on the remaining property, completing some improvements to

the buildings there. The remainder of the ranch was sold to the state in 1968. Isaac Chapman Steele's original ranch headquarters at Green Oaks remained in the family until 1965, when it was sold to wholesale florists. It was later purchased by the county, then sold again to private parties.

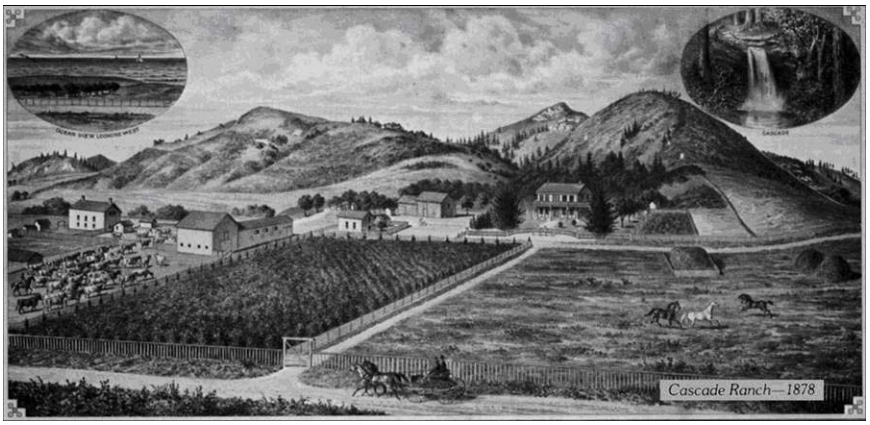
Cascade Ranch

Upon moving to the San Mateo coast, Rensselaer built a house on what would become known as Cascade Ranch as early as 1862. His wife, Clarissa Jameson, assisted greatly in the development of the dairy at Cascade Ranch. Their first child, Ella Steele, was born in Ohio, and came with the family to their new home in California. Their only son and second child, Ebenezer Steele, who was also born in Ohio (in 1847), passed away at the ranch in 1863. As a result a cemetery was established behind the ranch. Unfortunately, Clarissa also passed away, on May 31, 1866, at 42 years old. Rensselaer remarried Hattie Younglove, and together they had Rensselaer E. Steele, Jr. on November 14, 1869.

The dairy building at Cascade Ranch is where the Steeles produced much of their butter and cheese. Clarissa Steele, the driving force behind the dairy's move into cheesemaking, has even been called the "Mother of the California Cheese Industry."

The Steele ranches were well-known, and described in marked contrast to others on the coast: "[they were] . . . elegantly furnished, surrounded with shade trees and gardens, and provided with all the comforts of life" (Evans 1873:52). The Cascade Ranch was reportedly the center and coordinating ranch of the Steele Brothers partnership. The dairy building there produced much of the cheese and butter. It is not surprising that Cascade would be the focus, as Rensselaer's wife Clarissa has often been cited as the driving force behind the Steeles' move into cheese making. It was her attempts while they were living in Sonoma County that gave the Steele Brothers their entry into the cheese making industry. She has even been called the "Mother of the California Cheese Industry" (California Milk Advisory Board nd).

By the late 1860s, Rensselaer owned 1,500 head of cattle that subsisted on wild oats. During winter, Steele milked between 600 and 700 cows, though that number declined as the dry season approached. The cattle were then driven up to higher country where they remained until rains returned in November. Rensselaer also maintained a large garden behind a line of willow and other trees that included grapes, pumpkins, squash, melon, peanuts, and others. None of these crops were irrigated, but grew well with only spading and hoeing (Evans 1873). Apple, pear, fig, plum, apricot, peach, and almond trees were also grown in this garden area.



Cascade Ranch, as pictured in the book *Moore & DePue's Illustrated History of San Mateo County, California, 1878*. (San Francisco: G.T. Brown & Co, 1878.)

Rensselaer's nephew Frank Steele operated a portion of the ranch by late 1868, known as the "back ranch," consisting of 2,000 acres and 200 cows. He also began operating the main portion of the ranch during Rensselaer's failing health beginning in the mid 1870s (Lewis Publishing Company 1889; Cassiday 1889). Rensselaer passed away at his ranch on November 14, 1886, at age 78. Following his father's death, Rensselaer, Jr. acquired title to the Cascade Ranch. His daughter Ella acquired the Whitehouse Ranch.

By the 1880s, many saw bright prospects for the growth of the coastal sections of the county. In large part, this hope was driven by expectations for the completion of the Ocean Shore Railroad (Alley 1883). Rensselaer Jr. was not immune from speculation related to the hoped-for railroad. In the early 1900s, he mortgaged his ranch for $60,000 in order to subdivide a section of the land for the proposed development named *Torquay*. He also invested heavily in the railroad, which was connected to the proposed development. The 1906 earthquake, however, put the railroad out of business, and ended the hopes of the subdivision. Rensselaer Jr. lost his investment, and was forced to sell his land in 1919 to his San Francisco attorney, Charles F. Humphrey (Steele 1948:20).

Charles Humphrey purchased two other ranches at roughly the same time, bringing his acreage to 5,200. He put roughly half of this acreage under cultivation, growing artichokes, vetch seed, tomatoes, rice, corn, and tobacco. Humphrey's son, James, managed the property and continued to operate the dairy there. The ranch, in fact, was last of the old Steele ranches to produce cheese, ending that practice sometime in the 1930s.

Following the turn-of-the century, crops including peas and oats began to be planted across much of what is now the Cascade Ranch. Nationwide, a severe economic depression struck the dairy industry following World War I. Many small dairies went out of business, and many of the Steele ranches were converted to crops. To provide reliable irrigation water, a dam was constructed to increase the capacity of Lake Elizabeth, which stored water from Whitehouse and Cascade Creeks. In the flatlands the Humphreys and the Rossi family grew artichokes, cauliflower, peas, Brussels sprouts, and cabbage. In the hilly portions they grew grain crops. In 1923, the elder Rossi, an immigrant from Italy, began leasing farmland at the ranch. His son, Rudy grew up on and farmed the ranch from the time he was a young man until his death at age 74 in 1987. He also planted a eucalyptus grove on the 90 acres that he leased. By this time (1930s), Humphrey limited his cattle to roughly 70 head of cattle a year, as they were not found to be marketable (personal communication Charles Humphrey 2003).

James Humphrey and his son Charles operated the ranch together with the Rossi's along with hired labor. Most of these laborers lived in the original dairy building (built in 1862), which had been converted into a bunkhouse. In 1956, Rudy married his second wife, Bea Tirio, who moved to the ranch. The Cascade ranch was growing fava beans, peas, flax (for linseed oil), artichokes, and Brussels sprouts. The ranch was also used for processing Brussels sprouts, as well as a labor camp for artichoke pickers. The field in front of the main Steele house was planted in artichokes during much of this period.

In 1943, a fire engulfed much of the Cascade Ranch (although not in the area currently owned by California State Parks). The fire destroyed a large barn, and several other smaller buildings, although the original 1862 dairy building was spared (as were several others). Soon thereafter, new buildings were constructed to replace those burned. For the most part, these buildings remain today, and consist of the large packing shed, smaller barn, and various small outbuildings.

Humphrey owned the property until 1962, when it was sold to Theodore Char, a resident of Hawaii, representing a group of Chinese investors. During the Charr period, the Rossi family continued to operate the ranch, as managers-in-residence. Subsequently, several potential buyers considered purchasing the property for various reasons. Many of these potential buyers, including Leynse and Associates, planned to develop the land with houses. In the mid-1980s, the State of California

became interested in acquiring the property. Although the state legislature approved funding for the purchase of the ranch by State Parks, local opposition formed for fear of the loss of important agricultural land. As a part of the legislation for acquisition of the land, the California Coastal Conservancy agreed to purchase the agricultural portion of the land, and improve its water storage and delivery system. In 1986, The Trust for Public Land (TPL) purchased 4,088 acres of the Cascade Ranch, then sold 2,914 acres to State Parks, 694 acres to the Coastal Conservancy, and 480 acres to a private enterprise. That portion of the land sold to the Coastal Conservancy was leased to individual farmers. State Parks' acquisition contained roughly half of the built environment of the original Cascade Ranch headquarters.

Año Nuevo Island Light Station

Año Nuevo Point, Pigeon Point, and Franklin Point all presented hazards to passing ships, resulting in numerous shipwrecks. One of the earliest recorded wrecks was the *Carrier Pigeon*, running aground on June 6, 1853, and led to the changing of the name of Whale to Pigeon Point. Although no lives were lost, the entire cargo was. In 1865, another clipper, the *Sir John Franklin* broke apart on the rocks on a point between Pigeon and Año Nuevo. The crew attempted to reach shore through the treacherous surf, but only three made it. As a result, the site was named Franklin Point thereafter. One of the most infamous wrecks was the *Coya*, on November 24, 1866, which hit a hidden reef in deep fog and sank quickly. Only three people out of the 30 on board survived. It was perhaps this wreck more than any other that prompted the call for a lighthouse at Año Nuevo.

In 1870, the federal government purchased Año Nuevo Island and Pigeon Point from Loren Coburn in order to build aids to navigation. A coal-oil light was constructed at Pigeon Point in 1872 and a steam fog-whistle was installed on Año Nuevo Island. The combination of the whistle and light were deemed the best way to warn the ships of danger along this stretch of coast. Two keepers were initially installed on the island, living in a small residence (Davidson 1889:152). Unfortunately, wrecks continued to occur. In 1890, a light was constructed on the island in order to add to the warning system. It consisted of an oil lens lantern mounted on top of a water tank. Maintenance of the buildings on the island was a constant problem as a result of the sea air. Fences were built to prevent the sea lions from coming into the gardens and the houses. The fast-growing herds of seals however, often over-ran the house. In 1914, a larger lens was installed on a steel tower, 73 feet above the water. Other improvements to the

Año Nuevo Island. Lighthouse keeper's house in the foreground, refurbished fog signal and fuel storage buildings in the rear.

island consisted of a water catchment basin, together with a cistern and a tank.

In 1939, a fog signal diaphone replaced the earlier fog whistle on the island. By this time, the station was manned by four Coast Guard personnel, all of whom lived onsite. In 1948, the Coast Guard ordered the station discontinued, as a marker buoy with automatic light, sound, and radar reflector had replaced the lighthouse. The expense of maintaining the island was also too great, and the station was abandoned.

In 1958, the island was sold to the state for $52,000. The state classified the island as a scientific preserve, eventually restricting public access and use in order to protect the seal breeding colonies. The northern elephant seal was hunted almost to extinction by the turn-of-the-century. The animals made a remarkable comeback. A seal was first reported on Año Nuevo Island in 1955, and the first birth was recorded in 1961. Eventually its designation was changed to a State Natural Reserve. In 1962, Stanford Research Institute was granted a temporary use permit for the island. The Institute wanted to study the seals and sea lions on the island, and planned to improve the facilities located there. Several buildings and structures were demolished during this period.

The University of California, Santa Cruz also used the island through a 10 year permit. The scientists lived in the former fuel storage building, refurbishing it to make it habitable. The fog signal building was cleaned-out and storm screens were installed to fit the building as a storage facility and bunkhouse.

Built Features Within the Parks

Año Nuevo State Natural Reserve Historic Structures

Dickerman Dairy Barn

In approximately 1880, the Dickermans built a dairy barn that soon became known as the Dickerman Dairy Barn. Apparently, the barn was constructed at least in part from timbers salvaged from Waddell's Wharf (including 18" planking and large piers). This 90' x 38,' three-story barn was used for milking and hay storage. It was built on a foundation of wood piers and plank flooring. Framing consisted of hand-hewn 12" x 12" squared logs with mortise and tenon joints. In the 1920s, the barn was modified in order to comply with stricter sanitation requirements. A cement floor replaced the wooden floor in the eastern portion of the building at that time. In addition, pipes and electricity were installed for automatic milking machines. The upper stories of the building were used to store equipment and feed. The barn was completely rehabilitated in the mid 1980s to serve as a Visitor Center. Currently, the building is again being modified to serve the expanded needs of interpretation at the reserve. The Dickerman Barn was listed on the National Register of Historic Places (NRHP) in 1982, as structure #82002259. Its period of significance was established as 1875-1899.

Creamery

Horace Steele, a cousin of the Steele brothers built a general store at Waddell's Landing, as well as a house. With the destruction of the wharf in 1880, Horace moved both of these buildings approximately ¼ mile away. When Effie and Edwin Dickerman acquired the ranch, they lived in the house while a newer one was being built. At that point, the old house was converted to a creamery. The first floor housed the churn and cream separator, while the upper story housed two hired hands. Several changes were made to the building over the ensuing years, including the construction of shed additions (primarily in the 1920s and 1930). The building was later used for housing ranch employees. The building gradually fell into an advanced state of disrepair. The structure is currently being rehabilitated and adapted for park operations use as a

The Dickerman creamery.

part of the Dickerman Dairy Barn rehabilitation project. This building appears to be eligible for listing in the NRHP.

Dickerman dairy barn, left, and rear of Dickerman-Steele-Elliott house, right.

Flora Dickerman-Steele-Elliott House

This was the house that the Dickermans had built while they were living in the old house from the landing. Built sometime after 1884, this two-story house measures 54' x 25', with a 12' x 22' addition on the southwest corner, and an 8' porch on the south front. The building rests on a concrete pier foundation, contains numerous sash windows, and a gable roof. The roof and foundation were apparently replaced in 1960. It currently serves as residence for the Supervising State Park Ranger. This building appears to be eligible for listing in the NRHP.

Garage

Horace Steele's store mentioned above was initially converted to a barn by the Dickermans before being dismantled in 1951. The remaining lumber was used to construct a garage northwest of the Flora Dickerman house. Today the structure measures 20' x 40' with a 4' x 8' addition. The eligibility of this building has not been evaluated.

Horse Barn

Constructed in approximately 1880, this two-story, wood-frame building rests on a wood pier foundation, and measures 55' x 27'. Several large piers from Waddell's Wharf were used in the construction of the barn. The first story housed horses, while the second story consists of a loft that was originally used for the storage of feed. Exterior siding is board and batten. Many timbers used in the interior framing are hand-hewn, 12' x 12' logs, with mortise and tenon joints. Other framing members measure 8" x 8," and 4" x 4". Flooring consists of 12" x 3" planks. A shed measuring 10' x 26' was constructed on the east end of the barn at some point. A few other modifications were made, including the construction of interior partitions and modifications of front entrance doors following state ownership. The barn was initially used to house dairy artifacts and maintenance materials following state ownership. The building was recorded in 1970, 1977, and 1984. The exterior of the south side of the building was largely replaced at some point, and a new roof was put on soon thereafter. The barn is currently being rehabilitated and it will serve as an interpretive space. This building appears to be eligible for listing in the NRHP.

Milk Room

This small shed was built near the horse barn, approximately 100 yards from the Flora Dickerman Steele House. It is a frame structure resting on a concrete foundation. It was referred to by many names, as its functions changed over the years. Some referred to it as the AC Delco shed. It was rebuilt recently. This building does not appear to be eligible for listing in the NRHP.

Año Nuevo State Park Historic Structures

The bulk of historic structures remaining on Año Nuevo SP are found at the headquarters of the Cascade Ranch. This ranch contains several historically significant buildings, structures, and features. Originally, the main access road to the Cascade Ranch ran directly to the Steele House, instead of the current road. This road split the ranch between the main house, and the other buildings.

The Cascade Ranch is part of California State Historic Landmark #906, registered on February 8, 1977. California State Historic Landmarks are buildings, structures, sites, or places that have been determined to have statewide historical significance. Those numbered 770 and above are automatically listed in the California Register of Historical Resources, a listing of the state's significant historical and archaeological resources. Within Año Nuevo SP is California Historic Landmark #23, the campsite of the Portolá expedition near the mouth of Gazos Creek.

Steele House

The original house built by Rensselaer Steele shortly after his arrival in 1862, this saltbox-style building has been added onto several times. The Rossi family constructed a small, two-story gable roof addition on the southeast portion of the building that served as a dining room for their hired help. Following the construction of Rensselaer's larger house, this smaller house was reportedly used as a cookhouse. This house currently serves as a park staff residence.

Original Rensselaer Steele house

Rensselaer Steele/Humphrey House

This two-story house has Greek-revival elements, and also retains some New England stylistic characteristics. The front porch and second-story balcony with balustrade and pillars add to this feel. The house was reportedly built from redwood lumber milled in the Steele mill on Cascade Creek. Some reports indicate it was constructed as early as 1862, with an addition built on the rear sometime in the early 1870s, or as

Rensselaer Steele/Humphrey house

late as the 1880s. Others claim that it was built in 1863, following the completion of the smaller house. Still others claim it was constructed in 1872, following Rensselaer's second marriage. The house was clearly built before 1878, as it appears on a lithograph by Moore and Depew of that year. Rensselaer upgraded the house several times, and in 1884, he was in the process of renovating it. During the Humphrey ownership several alterations were made, including the construction of another wing, alterations to the rear façade, removal of balconies, window changes, and addition of new siding. Charles Humphrey's son and his wife Bonnie were the next to occupy the house, with further alterations made (Steele 1974).

The house is listed as San Mateo County Historic Landmark H-97 which recognizes its historical importance. It is currently being used as a park staff residence.

Humphrey Cottage

This house has also been referred to by several names. What appears to be the original portion contains board and batten siding, similar to the first Steele house on the property. An addition contains a lower-pitch roof, clapboard siding, and newer windows. Charles Humphrey reportedly used it as an office during his ownership of the ranch. It has not been evaluated for eligibility for listing on the NRHP. This structure is currently being used for storage.

Horse Barn

Horse barn

This building was constructed c. 1900. It contains two stories, with a horse stables and carriage room on the first floor, and a hay loft on the second. The gable roof contains two shed dormers on the west side, built for decorative purposes only. The building shares some stylistic attributes with the Steele/Humphrey House, such as gable roof, return cornices, and clapboard siding. The Rossi family completed some limited upgrades to the building, including installing new electrical lines, new flooring, and a new hay lift on the south side of the building, for ease in loading hay. The original hay lift, located on the north side of the barn was found to be too high to easily load hay from trucks. Originally, hay was hauled into the barn through this lift by man and horsepower, using a pulley system. A dump chute was constructed on the east side of the building sometime during the 1950s. The building retains a remarkable level of historic fabric, including horse stalls, trough, interior and exterior sheathing, etc. A historic structures report was completed on the barn in 2003, and a temporary roof was installed in 2004. The building is clearly

eligible for listing in the NRHP. It is in need of stabilization measures, including a new roof, foundation repair, and replacement of several framing members (sill plate, studs, etc.). It is currently being used for storage and horse boarding.

Dairy Building

The dairy building constructed in 1862 is still standing, although not on State Park property. It was originally three-stories, while it is only two today. The building was nominated to the National Register of Historic Places in 1979.

Other Features

Año Nuevo State Natural Reserve

Bickford Property

This property includes a one-room building constructed with brick and bridge timbers in the 1960s.

Island and Light Station

Today, only three buildings remain standing from the light station:

Fog Signal Building: This building consists of two parts, one built in 1883, and a later building constructed in 1899 to house newer fog signal equipment. The two buildings were connected by a gallery. The building is in good condition, and has been preserved by U.C. Santa Cruz researchers. Recent recommendations (Bischoff 2005) call for the preservation of this building.

Keepers Dwelling: Constructed in a New England style, the Keeper's Dwelling is a two-story building, consisting of two parts (original section built in 1872, and a 1906 addition). The building is deteriorating rapidly due to neglect, as well as seal activity. It has also been inhabited by several bird species as nesting habitat.

Fuel Storage Building: This reinforced concrete building was constructed in 1908, and contained one iron door entrance and two small windows. It is deteriorating rapidly.

The island also contains numerous ruins from other structures and features, including the light tower, boathouse foundation, cistern, water-shed, and water tank foundations.

The entire island was surveyed for prehistoric archaeological resources in 1984, yet none were found.

Franklin Point

This geographic feature north of Año Nuevo Point was named for the clipper *Sir John Franklin*, which was wrecked at the point on January 17, 1865. The captain and 11 sailors drowned, and were buried at the point. Subsequent shipwreck victims were also buried at Franklin Point (including the *Coya* in 1866). A small graveyard existed on the point thereafter. Because human remains were periodically unearthed over the ensuing years, in 2004 a project was completed to rebury known burials and a protective material was placed over the area. A boardwalk now directs pedestrian traffic.

Historic Refuse Deposit at Año Nuevo Creek

A large, well-stratified deposit of historic refuse is located adjacent to the Reserve headquarters in Año Nuevo Creek. It was clearly the dump for the ranch for many years. This refuse deposit should be protected.

Mission Outpost Foundation

A stone foundation for an adobe building, likely representing an aspect of the Santa Cruz Mission outpost located near Punta del Año Nuevo was re-discovered in 2003. Two sections of the foundation were uncovered during this excavation. The foundation was found to extend under the horse barn. Following recordation, the foundation was reburied to protect it from vehicle and pedestrian traffic. This foundation should be preserved in place, and protected from further damage. Further research should be performed on the activities surrounding this structure. It should also be interpreted to the public.

Año Nuevo State Park

Steele Family Cemetery/Chinese Community Burial Site

The cemetery behind the headquarters of the Cascade Ranch was apparently a Steele family burial plot. The 8' x 14' cemetery was enclosed by red brick. From the cemetery, a road continued up the canyon to the Cascade Falls and various water diversion basins and reservoirs.

Cascade Creek Water Works

Water was diverted via wooden pipes from Cascade Creek Falls at a rockwork pond. Later, another dam was constructed

on the creek, lower than the original. Water was also diverted from this dam to the ranch.

Lake Elizabeth

This large reservoir (actually expanded from natural size) was created following the construction of a dam in 1918, by owners of the Cascade Ranch. In 1921, the lake was expanded further. Some sources claim that it was created in 1930, and named for the owner of the ranch at that time, Mrs. Elizabeth Humphrey. In the 1970s, the capacity of the reservoir was reduced following state ownership. A large concrete foundation is located west of the lake, which may represent a large packing shed for artichokes and Brussels sprouts, built sometime in the 1930s or 1940s.

Chandler Reservoir

This lake was constructed in the 1920s for Charles Humphrey, and was fed by a pipeline from Whitehouse Creek. The dam and pipeline were actually constructed by members of the Steele family who were working for Humphrey at that time.

Additional features in the park include the dog run (recent), corral adjacent to the horse barn (recent), sawmill sites in Cascade Canyon, and the swimming pool.

Other Areas of the Cascade Ranch

Back Ranch: Frank Steele leased what was known as the back ranch (as it was inland from the Cascade Ranch) from 1872 to 1880. The Back Ranch included the Old Womans Creek area. By this time, the ranch reportedly consisted of 2,000 acres and 200 dairy cows. For many years, until recently, a house remained on the north side of White House Creek, attributed to Frank Steele. The house was two-stories, and after it was abandoned, portions of it were stripped for use on other buildings on the ranch under the Humphrey ownership. One of Frank's sons, Jay Steele married the granddaughter of Isaac Steele, and operated the Dickerman Ranch.

Whitehouse Ranch: During Graham's ownership of the Año Nuevo rancho, a two-story house was built by his lessee, Van Houghton, in 1852 to replace an earlier one that had burned. The new house was painted white, and became known as the White House, giving the name for the surrounding area. The house was a landmark for years, and mariners apparently used it for reckoning distance to San Francisco prior to the

Whitehouse Creek, Whitehouse Road, and Whitehouse Canyon were named after a house built during the time Isaac Graham owned Año Nuevo Rancho. The white house was visible from a distance, and travelers by land and sea used it as a landmark for years.

construction of a lighthouse. Following Graham's sale of the property, Steele partner Gushee assumed the responsibility for the dairy established in this location, and lived in the house. Gushee sold his property in 1872 to B. M. Scofield, who immediately sold it to Rensselaer Steele. Rensselaer's brother Horace lived at the ranch, and ran a dairy there. After his death, the ranch passed to Rensselaer's daughter, Ella. In 1880, she married Captain Rutherford H. Brown. The White House was moved 100 feet to the northeast, and a new house was built for the couple on the site of the old White House. Apparently, at that time eucalyptus trees were planted, thereby obstructing the view of the house from the ocean. The new house was an elaborate structure, built in Victorian Gothic style. Brown constructed another five buildings on the ranch, and leased it to J. H. Pratt at some point. Brown died in 1897, and the land was divided among his heirs. His wife remained at the newer White House until her death in 1919. Brown's Victorian Gothic White House burned in 1961, and Graham's original White House burned in 1976.

Much of the land that was known as Whitehouse Ranch was used extensively for grazing. There is ample evidence for the ranching of this area, as fences and roads remain in several places. A concrete foundation for some type of reservoir is located immediately off of the Whitehouse Road, close to the intersection with Highway 1.

Whitehouse Canyon: This area contains the probable site of "Casa Grande," a large Native California Indian village where a round house large enough to house 200 people stood. The site was described in the journals from the Portolá expedition. This roundhouse was apparently unlike other structures found in Native California Indian villages along the coast of California. It was likely a ceremonial structure, perhaps for dances. In this document, this area is known as Quiroste Valley (see Prehistory, p. 2-53, and Ohlone Lifeways, p. 2-49).

Whitehouse Creek Dam: On Whitehouse Creek itself, a large and elaborate concrete dam was constructed at an unknown date. The dam was reinforced with rebar, and was constructed using numerous forms. A pipeline ran from the dam downstream, and likely ran to Quiroste Valley. A road also led from below the dam up to another road which led to a clearing. Most likely, this dam and pipeline provided water to the Quiroste

Valley, which was the home of Frank Steele for many years. It may have been built by Mr. Steele, or for him.

Museum Collections

The museum collections at the Reserve consist of a variety of objects, documents, and photographs related to the park's natural and cultural history. These include taxidermied animal specimens, geological specimens, animal bones and skeletons, and miscellaneous historic objects related to the Steele Ranch. These objects are located in the Visitor Center, in the park office, and at the Docent Roost (a volunteer interpretive staff facility located between the Visitor Center and the Wildlife Protection Area). Natural and cultural history reference books are located in the park office and at the Docent Roost.

AESTHETIC RESOURCES

Scenic Resources

Scenic resources often provide a unique sense of place to an individual park, as well as to specific areas within a park unit. Scenery can be defined as the general appearance of a place and the features of its views or landscapes. It consists of both biophysical elements (landforms, water, and vegetation) and cultural, or manmade, elements. Many of the resources called out as "scenery" or "scenic resources" would also be considered cultural landscape features in many instances (viewsheds, landforms, water, vegetation, manmade elements, etc.) and should be surveyed and evaluated as such prior to determining potential impacts to these resources. Scenic quality is an important and valuable resource, especially on public lands. Many people value the quality of the scenery and have high expectations of scenic quality, especially when visiting California State Parks.

The visual quality and rural character of southern coastal San Mateo County is very important not only for visitors to the parks, but also on a local, regional and state level, as indicated in local and regional land use plans (such as the San Mateo County General Plan and Local Coastal Program), and the state scenic highway designation of this segment of Highway 1. The scenic views from the highway are where many people initially experience this spectacular landscape. The area offers a variety of landforms and vegetation, as well as rich contrasts between wide marine terraces and high ridges, and the ocean and dry chaparral areas near lush forests. Highway 1 offers extensive panoramic views of the surrounding landscape and serves as the gateway to the

park. The scenic corridor along the roadway provides views of scenic features that are important to the region such as the ocean, bluffs, upland forested areas, natural lands, and Año Nuevo Island.

Año Nuevo State Natural Reserve

Sweeping views of the Pacific Ocean and the Santa Cruz Mountains can be seen from many points in Año Nuevo State Reserve.

Año Nuevo SNR has been recognized for its scenic qualities, natural beauty, and panoramic vistas, especially views of the expansive coastline and ridgelines surrounding the park. The lack of development, sense of remoteness and wildness within and surrounding the unit, pinniped population, sand dunes, and creek and wetland areas are considered valuable scenic resources.

The coastal area on the western side of the Santa Cruz Mountains is heavily influenced by marine weather patterns. Summer fog is frequent, producing a cool, misty, and quiet quality to the park. Along with a variety of weather conditions (such as fog, wind, and rain), the changing seasons contribute to a transformation of vegetation in form, texture, and color. The most noticeable are the colorful annual wildflowers and the changing hues of deciduous vegetation and grasses which are especially pronounced in the autumn and spring.

There are a variety of scenic resources to experience at Año Nuevo SNR. The landscape is characterized by sandy beaches, sand dunes, rocky shorelines with tidepools, coastal terraces with scattered coyote brush and grasslands, meandering creeks, and freshwater wetlands with abundant wildlife habitat. Panoramic vistas include the Pacific Ocean and Santa Cruz Mountains, windswept beaches and dunes, historic ranch structures, and a variety of wildlife, including the elephant seals, sea lions, and other marine mammals.

Vista points and panoramic views are found throughout the Reserve. There are expansive views of the Pacific Ocean and coastline toward the west, especially from the rocky outcrops. To the east, there are views of the interior of the park and to Año Nuevo SP, east of Highway 1, as the coastal terrace increases in elevation to merge with the hills and steep slopes of the Santa Cruz Mountains.

Water is a dominant feature of Año Nuevo SNR. The Pacific Ocean is a primary focal point, along with the perennial streams (Green Oaks Creek, Whitehouse Creek, and Cascade Creek) and a freshwater pond that provides riparian and wetland habitat and calm, open water views.

Windbreaks of Monterey cypress along the Cascade Creek Trail are remnants of the former agricultural uses of the property and, together with the historic Steele Ranch structures (Dickerman Barn, Horse Barn, and Creamery), add to the rural character of the park.

Año Nuevo State Park

The landscape at Año Nuevo SP is characterized by a mosaic of vegetation, including grassy marine terraces with scattered coyote brush, meandering creeks containing lush riparian corridors, grasslands with seasonal wildflowers, shady and cool Douglas-fir and redwood forests, wetlands harboring abundant wildlife habitat with sedges and rushes, and drier sites with knobcone pine.

The western side of the Santa Cruz Mountains is heavily influenced by marine weather patterns. Summer fog is frequent, producing a cool, misty, and quiet quality, blanketing the coastal bluffs, and often reaching deep into the canyons and forest. Along with a variety of weather conditions (such as fog, wind, and rain), the changing seasons contribute to a transformation of vegetation in form, texture, and color. The most noticeable are the seasonal displays of wildflowers throughout the park and the changing colors of deciduous vegetation and grasses which are especially pronounced in the autumn and spring.

The riparian areas along Año Nuevo SP's four perennial streams provide ever-changing color, form, and texture, and the peaceful sound of running water.

Vista points and panoramic views are primarily found along the areas of higher elevation in the park and open vegetation along the roads and trails. There are expansive views of the Pacific Ocean toward the west and views of the interior of the park to the east as the landform gains elevation and the vegetation changes from coastal scrub to forest.

Año Nuevo SP contains four perennial streams: Gazos Creek, Old Womans Creek, Whitehouse Creek, and Cascade Creek. These creeks support riparian environments with a mix of vegetation that displays an ever-changing variety of color, form, and texture throughout the seasons. Two reservoirs, Lake Elizabeth and Lake Chandler, provide calm open water views and wetland habitat.

Auditory Resources

The predominant sounds at Año Nuevo SNR are natural: the ocean waves and surf, wind, birds, and marine mammals such as the northern elephant seals and sea lions. During breeding season, the dominant presence of the elephant seals and sea lions is marked not only by their sheer numbers

but also by their loud collective vocalizations and sounds of the battles amongst the males. Males establish dominance to determine who does the majority of the mating in a harem. The first phase is a distinctive low-frequency, guttural vocalization. The dominance battle can progress to a noisy bloody physical attack between males. Mothers and pups learn to recognize each other by vocalizations and sniffing immediately after birth. Their vocalizations are critical, since territorial disputes and stormy surf conditions can separate a mother and its pup and they may only find each other again by recognizing each other's call. These distinctive sounds are part of the ambience of the Año Nuevo Point area.

There is also some noise produced by traffic from Highway 1 to the east and from various visitor activities, including school groups.

The predominant sounds at Año Nuevo SP are also natural ones: wind in the trees, birds and other wildlife, and moving water. Traffic noise is limited to that occurring on Highway 1.

INTERPRETATION AND EDUCATION RESOURCES

Regional Interpretation Conditions

The regional interpretive study area extends from San Gregorio in the north to the city of Santa Cruz in the south, and from the ocean in the west to the crest of the Santa Cruz Mountains in the east. This area was chosen to reflect common park visitor access routes along the coast Highway 1 and the interior Highways 17, 92, and 84. The area is rich in interpretation sites, including state parks, county parks, natural land preserves, and a private resort.

Major interpretation topics in the regional interpretive study area are redwood ecology, logging, preservation, and recreation; coastal and sustainable agriculture, including dairying and ranching; maritime exploration and commerce; marine life and its protection, including marine mammals and tidepools; wetlands; Native California Indians; the Santa Cruz Mission; species of special status; and geology.

Following is a list of interpretation and education opportunities in the regional study area, with their primary topics, listed roughly north to south:

- Memorial Park, San Mateo County: redwood ecology
- Pescadero Marsh Natural Preserve, Pescadero State Beach: coastal wetland ecology

- Butano State Park: plant communities, nocturnal animals, and amphibians
- Cloverdale Coastal Ranches (Peninsula Open Space Trust (POST)): habitat restoration, land stewardship, sustainable agriculture, and species of special status
- Pigeon Point Light Station State Historic Park: the lighthouse, the keeper's house, the Fresnel lens, the many shipwrecks, other places to visit, and the California Coastal Trail
- "Exploring New Horizons" Outdoor School (located at Pigeon Point, with field trips to other area parks): marine biology, redwood ecology, botany, zoology, geology, and coastal cultural history
- Blue House Farm (located on Cloverdale Coastal Ranches): "where food comes from" and organic sustainable agriculture
- Costanoa Resort: Native California Indian history, coastal ecology, bird, and plant and animal life
- Pie Ranch (located next to POST's Green Oaks Ranch, with three- year option): "the full cycle of food production," sustainable agriculture, and programs for inner-city teens.
- Big Basin Redwoods State Park: redwood ecology, homesteading, logging, preservation and recreation; geology; plant communities; animal adaptations; and the Civilian Conservation Corps
- Natural Bridges State Beach: coast ecology and geology, and monarch butterflies
- Wilder Ranch State Park: dairy ranching, the Ohlones, Mexican land grant history, plant communities, preservation, and Monterey Bay National Marine Sanctuary
- Santa Cruz Mission Adobe State Historic Park: Native California Indian experience at the Mission, secularization of the mission, and early American history at Santa Cruz

Wilder Ranch SP, about a half-hour south of Año Nuevo interprets coastal dairy ranching c. 1900.

Park Interpretation Conditions

Año Nuevo State Natural Reserve

Año Nuevo SNR is a major mainland rookery for the northern elephant seal, and the interpretive program has attracted increasing interest every winter for the past 19 years. Año Nuevo SNR is internationally renowned for its interpretive program. The Reserve has an annual visitation rate of over 139,237 persons per year. Visitors come to this reserve primarily to experience the elephant seals in their natural habitat.

The elephant seals may be seen year-round, but the winter birthing and breeding season attracts the most seals and people by far. During this season, December 15 through March 31, visitor access to the Wildlife Protection Area is available only by guided walks.

Because of the elephant seals' dramatic size, appearance, and behavior, Año Nuevo SNR is California State Parks' most popular site for naturalist-guided walks and marine education. Up to 48,000 people purchase tickets annually to take the winter seal walks and 15,000-20,000 people are unable to make reservations each year due to demand exceeding current tour capacity. Advance reservations are recommended for walks, particularly for those who hope to see the seals during the winter breeding season.

Interpretive Facilities

Visitor Center

The existing Visitor Center and bookstore occupy the former dairy barn of the Dickerman-Steele ranch complex. It is undergoing a major renovation in 2007/2008, and, along with two other rehabilitated historic buildings, will be transformed into the new Marine Education Center. The previous Visitor Center exhibits have been removed.

Restrooms, drinking water, and picnic tables are available near the Visitor Center only.

Marine Education Center

California State Parks, the California State Parks Foundation, and the San Mateo Coast Natural History Association are cooperating to develop a Marine Education Center at Año Nuevo SNR to expand and enhance the existing Visitor Center. Because existing facilities at the reserve are not adequate to serve increasing numbers of visitors, the new Marine Education Center will meet the growing needs for interpretation and docent training. The Center will be make adaptive use of three existing historic structures (the Dairy Barn, the Horse Barn, and the Creamery), originally a part of the historic Dickerman-Steele Dairy Ranch. The February 2005 "Año Nuevo State Natural Reserve Marine Education Center Interpretive Plan" details themes and media for the center.

The Marine Education Center will provide space for interpretive exhibits, educational facilities for school programs and interpretive presentations, as well as an administrative

center for the program complete with a meeting room, offices and perhaps a small concession.

Exhibits being installed in the Dickerman barn in 2007/2008 will primarily focus on the Northern Elephant Seal. A section will also interpret the intertidal zone, including birds, geology, tidepools, and prehistoric use,

Exterior panels will provide recreation and orientation information, and interpret the area's cultural history.

Outdoor Interpretive Panels

Outdoor interpretive panels are located at eight places in the Reserve.

- Point Arena Shipwreck display on the Ano Nuevo Point Trail - 1 panel on shipwrecks along the coast
- Pond Interpretive Deck at the Ano Pond - 3 panels on wetland habitat, birds and San Francisco Garter/Red legged frog.
- Ano Point Trail ¼ mile from staging area - 2 panels on night time animals and raptors
- Staging Area Overlook - 1 panel on Ano Nuevo Bay
- Staging Area - 1 large display on pinnipeds and 2 panels on Native California Indians and sand movement
- Pole 1 beach overlook - 1 panel on geology
- Thrust Fault - 1 panel on grey whales
- The Cascade Creek, South Whitehouse Creek and North Whitehouse Creek trailheads - 3 panels on coastal terrace prairies

The Docent Roost

The Docent Roost is a small building located halfway along the Año Nuevo Point Trail where docents can rest and prepare for meeting their tour group. The Roost has a small library and a kitchen. It is not in itself a public interpretive facility, but it does provide important support for interpretive programs.

Interpretive Programs

Interpretive School Programs

School-group Guided Tours:

About 18,000 school children participate in organized docent-led seal walks during the winter seal breeding season. School

groups are generally 20 students plus two required chaperones. Teachers receive teacher guides with lesson plans on the elephant seals to study with their students before their visit to the Reserve. The school outreach program closely follows the California Educational Standards.

PORTS Distance-Learning Program:

The California State Parks "Parks Online Resources for Teachers and Students" (PORTS) program is a collaborative effort between public schools and California State Parks. By using the California's K-12 High-Speed Network (HSN, a high-speed network connecting California's public schools) PORTS is able to deliver live two-way videoconference presentations to classrooms from parks throughout the state. PORTS also provides fully developed units of study that furnish support, structure, preparation, and follow-up for these live presentations. All PORTS programs are themed-based and address academic content standards in the context of California State Parks.

The Santa Cruz District PORTS program focuses on the northern elephant seal rookery at Año Nuevo Island. It is designed to fulfill 7th grade science content standards on evolution, and can also be adapted for other grades. This live interactive program is given via videoconferencing equipment and connects classrooms throughout the state with the PORTS studio at Seacliff State Beach. Students interact with interpreters and view live video of the elephant seals on Año Nuevo Island as part of the program. PORTS allows students, regardless of their geographic location or economic status, to talk face to face with interpreters about Año Nuevo.

The program is designed to serve 10,000 students a year per each 1500 hours of interpreter time. Overwhelming classroom demand already exists for PORTS programs. It has proven to be a very popular program; the main limitation on the numbers of students served has been due to limited interpreter availability.

General Public Programs

Over two hundred volunteer docent naturalists conduct guided walks from the Visitor Center to Año Nuevo Point during the elephant seal's winter breeding season, December 15–March 31. During this season, visitors are only allowed in the Wildlife Protection Area on guided walks.

The reserve offers naturalist-guided walks daily during the breeding season. These popular three-mile walks over rolling

sand dunes last about two and a half hours and are considered moderately strenuous. "Equal-access Guided Walks" are available by reservation on breeding-season weekends. A wheelchair-accessible bus is used to transport attendees to the viewing area.

During the molting season, April 1–August 31, and the juvenile haul-out season, September 1 to November 30, the Wildlife Protection Area is open for self-guided hiking by visitor permit only. Visitors must obtain a free visitor permit from the entrance station. No reservations are required and no guided walks are offered. The Reserve has a Roving Naturalist Program to offer personal interpretation.

Volunteer docent naturalists in bright red jackets lead elephant seal walks or rove in the viewing areas answering questions. The elephant seal costume is used for school groups and special events.

There are several terrestrial, freshwater, and marine species in the Reserve that need special protection, including the San Francisco garter snake, the snowy plover, and the sea otter. The Reserve has a long-standing successful program of using the elephant seal tours and other interpretation as a way of educating the public about these and the Reserve's many other resources, and enlisting public support for protecting these resources.

Remote Interpretation

The reach of Año Nuevo SNR interpretation and education goes beyond the borders of the park. Besides the PORTS programs for school groups mentioned above, Año Nuevo State Reserve maintains an excellent set of interpretive webpages on the California State Parks website. The webpages have the expected basic park visit logistics and tour booking information, and also go far beyond the basics with well-written interpretive information, illustrated with many good photos, on the northern elephant seals, other Reserve animals, and the plants, geology, and history of the region. Website visitors can play audio tracks of various elephant seal sounds, while reading information on why these sounds are important communication tools, and connect to a live "Seal Cam" on Año Nuevo Island (when available.)

<u>Interpretation Opportunities</u>

- Recent scientific and historical studies have provided new information which can be interpreted:
  - Archeological studies of coastal middens have provided more information on the early park inhabitants, and also on the prehistoric ranges of fur seals and northern elephant seals.
  - Further information on Franklin Point shipwrecks and the sailors and passengers buried at the

point has been uncovered in archeological and historical studies the past few years.

- Steller sea lions and northern elephant seals are being studied intensively, and intriguing new information has been and probably will continue to be found on these marine mammals.
- The research being done on the Año Nuevo Island Natural Reserve by University of California (UC) scientists provides ongoing information for interpretation, as well as an opportunity to interpret the UC Natural Reserve, and how the scientific research is conducted.

- Important park management messages to interpret include
  - the effects of global climate change on the park and measures to limit climate change
  - historic resource preservation at the Dickerman-Steele Ranch buildings and Franklin Point
  - conservation of species of special concern at the park
  - Public safety messages, especially regarding the elephant seals and hazardous cliff edges

Interpretation Constraints

- The harsh marine environment of strong winds, sand, winter storms, and corrosive salt air affect both interpretive programs and facilities. Among other effects on interpretation, the environment has limited the use of the Seal Cam, rendering the images indecipherable on stormy days, and causing frequent mechanical problems.
- A Wildlife Protection Area is designated at Año Nuevo Point to provide wildlife viewing opportunities and minimize disturbance to the animals in their natural habitat. Visitor entry into the Wildlife Protection Area is regulated year-round. The type of public access allowed (guided only, self-guided, or prohibited) to the Wildlife Protection Area is determined by the seasonal activity of the elephant seals.
- Dune and wetland areas are fragile, and some of the important resources to interpret are located in or accessed via these areas; this may limit interpretive walks and self-guided trails in some instances.
- Visitor access to the Wildlife Protection Area is closed during the pre-breeding season, December 1-14, when

pregnant female elephant seals and adult males begin to arrive on the beaches and form harems.

- Full tour bookings and the remoteness of the park limit the number of potential school groups and public visitors who are able to participate in guided elephant seal walks.

Año Nuevo State Park

Interpretive Programs and Facilities

There is no existing interpretation at Año Nuevo SP.

Interpretation Opportunities

- The current Año Nuevo State Park area has not been opened to the public. Its resources and stories will provide many opportunities for interpretation. Important resources and stories to interpret include:
  - Quiroste Valley, site of a large and influential native California Indian village at the time of Portolá's visit, and later the source of an important resistance to the Spanish mission system.
  - Cascade Ranch, with several extant historic dairy-ranch era buildings, site of early cheese making in the Central Coast area, and also early conversion to row crops as the farming economy changed.
  - Cascade Falls, a short hike from Cascade Ranch—a historic site as well as a beautiful natural and aesthetic resource.
  - The recreation opportunities provided by the network of trails linking Año Nuevo SP with other public lands.
  - Lake Elizabeth, which, though man-made, provides habitat for several special status species.
- There will be more sites for trailhead and wayside exhibits as new trails are developed and opened to the public.
- Important park management messages to interpret include
  - the effects of global climate change on the park and measures to limit climate change
  - historic resource preservation and restoration at Cascade Ranch and Quiroste Valley
  - conservation of species of special status at the park

- public safety messages such as bringing adequate water for long hikes on the regional trail system

Interpretation Constraints

- The historic building area at Cascade Ranch must be used in a manner consistent with department cultural resources policy.
- Quiroste Valley, an important site for Native California Indian interpretation, is a moderate to strenuous hike from the proposed trailhead.
- Quiroste Valley is an important cultural landscape. Preserving the historic context of the valley will limit structures for interpretation in the valley.
- Interpretation of Quiroste Valley must be planned with input from appropriate Native California Indian groups, to ensure cultural sensitivity.

RECREATION RESOURCES

Dune trails offer access to wildlife viewing and beach-related recreation activities.

Since the original acquisition of the land that established Año Nuevo SNR, the general pattern and intensity of visitor use in this area has been popular coastal day use tours and hiking to observe the elephant seals at Año Nuevo Point and Island, moderate day use picnicking, coastal hiking, beach-related recreation at Gazos Beach and Año Nuevo Bay, and fishing at Gazos Beach. Although there are no formal trailhead facilities for the inland portion of the park, existing access to the inland backcountry areas is available from adjacent Butano SP and other nearby regional trailheads. Low intensity trail use and trail camping are the primary recreation activities in backcountry areas of the Santa Cruz Mountains region.

For information on statewide and regional recreation needs, see Demographics, Trends and Projections at the end of this chapter.

Visitor Support and Orientation

Visitor support includes facilities such as Visitor Centers, picnic areas, restrooms, day use parking areas, wildlife viewing areas, coastal vista points, and trailheads. These facilities serve the coastal needs of park visitors and enhance their coastal experience in the park, including the popular elephant seal tours. The park has a well-defined main entrance and arrival point from State Highway 1. Vehicular access to all visitor facilities is located along the seaward side of the highway. The main entrance provides access to the

primary park facilities at the southern end of the coastal strip. A secondary road, Gazos Creek Road, forms part of the park's northern boundary between Año Nuevo SP and Butano SP. This provides access to the backcountry areas of the Gazos Creek watershed even though there are no formal existing park facilities for the inland park areas. There is a Cascade Falls trailhead at Cascade Ranch but there are no formal trailhead facilities.

Trail Use

Trail use in Año Nuevo SP is a primary recreation activity and the primary way to explore the various areas of the park. The trail network includes coastal hiking-only trails and inland regional multi-use trails (for hiking, mountain biking, and equestrian use) providing a variety of experiences in the park's many natural environments. The regional trail network provides connections to the Santa Cruz Mountains and coastal regional natural areas that include other state parks and public natural land properties. Existing hiking and mountain biking access to regional trails is from adjacent Santa Cruz Mountains areas and Butano SP. Equestrian trail access is available from regional Santa Cruz Mountains trailheads. There are several at several locations in Big Basin Redwoods SP. The nearest equestrian trailhead to Año Nuevo SP is about five miles away at the coastal Rancho del Oso area of Big Basin Redwoods SP.

Año Nuevo SP and SNR connect to a regional trail network, including coastal hiking-only trails, and inland multi-use trails. There are currently no formal trailhead facilities in Año Nuevo SP, on the inland side of Highway 1.

Fishing

The coastal access and parking on the north side of the mouth of Gazos Creek has served popular surf fishing activity along Gazos Beach. The principal fishery in this area is the summertime striped bass run, but redtail surfperch, silver surfperch, and rockfish have also been caught. Implementation actions of the Marine Life Protection Act established the Año Nuevo coast as a part of a Marine Protected Area (MPA) in 2007. The purpose of an MPA, is to protect or conserve marine life and habitat. As a result, shoreline fishing is no longer allowed south of Gazos Creek.

Regionally, the San Mateo County and Santa Cruz shoreline, from Martin's Beach to the Santa Cruz Pier, is made up of small, half-moon-shaped sandy beaches nestled between extensive rocky, tide-pool areas. A majority of fishing in this region is by rock fishermen. Rock fish species include calico surfperch, rainbow surfperch, kelp greenling, walleye surfperch, and cabezon.

Camping

There are no existing camping opportunities at Año Nuevo SP or Año Nuevo SNR, however, there are existing camping opportunities in the Santa Cruz Mountains region. The nearest state park campgrounds in the region are north on Cloverdale Road at Butano SP (approximately 2.5 miles away), north on Highway 1 at Half Moon Bay SB (approximately 25 miles away), and south on Highway 1 at the Rancho del Oso campground (approximately 5 miles away) in Big Basin Redwoods SP. Additional inland regional forested campgrounds are available at Big Basin Redwoods SP, Portolá Redwoods SP and Henry Cowell Redwoods SP. There are also coastal campgrounds at New Brighton SB, Seacliff SB, and Sunset SB near Santa Cruz. Costanoa, a private resort along Highway 1 adjacent to Año Nuevo SP, offers a variety of overnight accommodations including tent cabins, RV campsites, and equestrian campsites.

There are also hike-in and equestrian ride-in trail camps located in the Santa Cruz Mountains regional natural lands network which offers an alternative remote backcountry experience.

There is growing interest and demand for alternatives to traditional tent camping as the average age of the general population increases. Such alternatives include cabins, tent cabins, and yurts that allow park visitors to enjoy overnight stays without having to set up camps or invest in camping gear. This alternative would also provide additional accommodations for visitors with special needs and accommodations for overnight park visits outside of the traditional summer peak season (especially during variable weather conditions).

As Bay Area and park visitor demographics change, park management will need to respond to changing recreation demands without compromising the park's resources.

As nearby Bay Area and park visitor demographics continue to evolve, recreation in Año Nuevo SP will need to respond to those demographic changes while still preserving the park's vital and character-defining resources. This may include adding group facilities for visitors who prefer recreation with more social interaction. To accommodate demographic changes and recreation preferences, clusters of nearby state parks in a region may also be managed in such a way to identify those parks with greater opportunities or facilities for group or other specialized uses, while other parks are identified for more individual or family use. The coastal portion of the park will remain generally low intensity day use (except for the Visitor Center area) due to the presence of the proposed Natural Preserve sub-classification and its sensitive resources as well as the area's high visibility from the highway.

Since no formal visitor facilities exist in the inland portion of the park, any new or significant recreation opportunities would be provided there.

Emerging Recreation such as Geocaching

Geocaching is a new and developing sport where participants use global positioning system (GPS) receivers to locate caches hidden in various locations by other GPS users. The GPS coordinates of the caches are posted on the internet (www.geocaching.com) so that other GPS users can find the caches. Once found, a cache may provide the visitor with various rewards–from trinkets to pointing out an exceptional view seen from that particular location. Participants are urged by geocache advocates to practice the sport in an honorable and non-destructive manner. Laws, policies, and guidelines are in place in both National and State Parks which provide park managers authority to manage activities such as geocaching. As this type of sport gains in popularity and concerns for geocache activity near sensitive resource areas increase, park managers may need additional resources and direction. Geocaching is an activity that occurs at adjacent Butano SP too.

2.5 PARK SUPPORT

There are many volunteer groups, nonprofit agencies, advocacy groups, and cooperative associations that assist with operations, maintenance, and interpretation at Año Nuevo SNR and SP. Año Nuevo SP is not yet formally open for public use, but there are several organizations that support this park as well as other state parks in the region.

The **California State Parks Foundation** is dedicated to natural and cultural resource preservation throughout California. The foundation works with citizens, lawmakers, and community and business leaders, to acquire adequate funding and protection of park resources.

At Año Nuevo SP, State Parks has a Memorandum of Understanding with **Cascade Ranch Historic Farm** (CRHF), a nonprofit group which owns over 400 acres of agricultural land adjacent to the park's Cascade Ranch historic property. The CRHF spits ownership of the historic area ranch buildings with California State Parks, with common missions of environmental protection, education, historic preservation, and serving the public. State Parks and CRHF have agreed to coordinate in public outreach and education efforts at both

Año Nuevo SP and Año Nuevo SNR and in public access and circulation arrangements at Año Nuevo SP. The CRHF helps perpetuate farming on the coast by growing artichokes and other crops traditionally grown in coastal areas.

The **Horse Patrol Program** consists of equestrian volunteers who assist in interpreting and protecting the north end of the Año Nuevo coast. Volunteers attend training given by State Park staff and also demonstrate their equestrian skills. The program is serving a need in protecting the coast and providing interpretive information to the public.

The **Pescadero Conservation Alliance** (PCA) is a non-profit group working to restore the ecological health of the San Mateo coast. Their restoration program includes coastal restoration projects and science education. The PCA has implemented projects to remove non-native plants in Año Nuevo SNR.

The **San Mateo Coast Natural History Association** (SMCNHA) supports the interpretive programs at state parks in San Mateo and San Francisco Counties. The SMCNHA supports over 300 state park volunteers and staff to offer educational and interpretive activities to park visitors. The association has worked with park staff and the California State Park Foundation to secure funding for the Año Nuevo Marine Education Center. Some creative annual events the association sponsors include "Sealabration" at Año Nuevo SNR. State Park volunteers and staff are able to offer educational and interpretive activities to the park visitors due to this group's support.

The **Santa Cruz Bird Club** sponsors birding walks in and around Santa Cruz County, boat trips on Monterey Bay, summer picnics and annual dinners, and meetings September through May featuring informative, illustrated talks for birders on wild birds and related topics.

The **Santa Cruz Mountains Bioregional Council** is a non-profit public benefit corporation whose purpose is to conserve native plant and animal biodiversity in the Santa Cruz Mountains Bioregion. The Bioregional Council works to preserve and restore native biological diversity and processes through the sharing of information, the coordination of activities, the fostering of biological research, the instigation of mutually supported land conservation or habitat enhancement projects, and public education efforts. Members of the Bioregional Council include individuals from state and federal resource management agencies, local

governments, land trusts, open space districts, educational institutions, conservation groups, and private properties.

The **Save-the-Redwoods-League** funds environmental restoration, supports research to expand knowledge about the redwood forest, and educates the public about the redwoods and the redwood forest ecosystem in addition to contributing to the permanent protection of hundreds of thousands of acres of redwood forest. The League supported the acquisition of the redwood forest portion of the Cascade Ranch acquisition.

The **Sempervirens Fund** preserves and protects the natural character of California's Santa Cruz Mountains and encourages appropriate public enjoyment of this environment. The membership of the Sempervirens Fund consists of thousands of individuals worldwide who care about protecting redwood forest lands and making them available for public enjoyment. These members make tax-deductible donations to the Sempervirens Fund, which uses the money to buy threatened redwood forest lands in the Santa Cruz Mountains region. The fund fosters public participation in activities such as reforestation and trail projects.

The **Wildlands Restoration Team** is a volunteer-based organization dedicated to preserving the rich biodiversity of the Santa Cruz Mountains. Volunteers have worked at Año Nuevo SP to eradicate exotic plants such as eucalyptus, pampas grass, and hypericum.

2.6 PLANNING INFLUENCES

Planning for State Parks must be extensive to consider issues that cross statewide, regional, and local boundaries. Federal, state, county, and community agencies are responsible for providing oversight and review of various planning-related policies and laws. Additionally, local planning information is essential is assisting State Parks with relevant information regarding natural, cultural, recreational, and aesthetic resources, existing land uses, and education and interpretation programs pertinent to the park.

The following systemwide, regional, and regulatory planning influences were considered in developing the general plan guidelines.

SYSTEMWIDE PLANNING

Planning for individual state parks must take into account statewide, systemwide, regional, and local planning.

Systemwide planning improves the ability of the Department to fulfill its mission by establishing policies, methods, and guidelines for managing state-owned park land. This enables the Department to apply a more consistent approach to implementation of various aspects of park planning, preservation, development, and operation throughout the park system. It is the intent of this general plan to be consistent and current with the Department's systemwide planning and policies. The following are elements of those systemwide planning policies, procedures, and guidelines.

Public Resources Code

In addition to the State Constitution and Statutes, California Law consists of 29 codes covering various subject areas (*California Code of Regulations*). The *California Public Resources Code* (PRC) addresses natural, cultural, aesthetic, and recreational resources of the state. PRC sections 5019.50 to 5019.80, Classification of Units of the State Park System, provide guidelines for the designation of state park units and guiding principles for state park improvements. The PRC also classifies different types of improvements of state park units.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires state and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an Environmental Impact Report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project. General Plans require a Programmatic EIR, and park development projects require appropriate environmental review, which may include an EIR.

California Department of Parks and Recreation Administrative Manual

The *Administrative Manual* provides the policies and procedures by which California State Parks function. Departmental manuals are intended to contain general matters of policy and procedure. More detailed materials will be prepared and issued in the form of handbooks, with each handbook devoted to a single topic (such as planning or trail maintenance) when information and specifications are needed that are too lengthy to include in a manual.

California Department of Parks and Recreation Operations Manual

The *Operations Manual* provides the policies and procedures that are pertinent to the operation of the State Park System. It is intended as a working document for Department personnel.

Section 0300, Natural Resources

The Department Operations Manual Section 0300 is the basic natural resource policy document for the State Park System. The policies, definitions, processes, and procedures contained in this chapter guide the management of the natural resources under the jurisdiction of the Department of Parks and Recreation, including naturally occurring physical and biological resources and associated intangible values, such as natural sounds and scenic qualities. These policies, definitions, processes, and procedures amplify the legal codes in the PRC, the California Code of Regulations, and the California State Park and Recreation Commission's Statement of Policies and Rules of Order as they pertain to the natural resources of the State Park System.

Section 0400, Cultural Resources

The Department Operations Manual (DOM) Section 0400, currently under revision, will be the basic cultural resource policy document for the State Park System. Until it is complete, Section 1832 of the Resource Management Directives (1979) and the Cultural Resources Management Handbook (2001) provide the policies, definitions, processes, and procedures to guide the management of cultural resources under the jurisdiction of the Department, including prehistoric and historic archaeological sites, historic buildings, features and landscapes, and Native California Indian cultural resources. These policies, definitions, processes, and procedures highlight the legal codes in the PRC, the California Code of Regulations, State Historic Building Code, The Secretary of the Interior's Standards, a Memorandum of Understanding between State Parks and the Office of Historic Preservation, Executive Order W-26-92, and the California State Park and Recreation Commission's Statement of Policies and Rules of Order as they pertain to the cultural resources of the State Park System.

The Department recognizes its responsibility as steward of many sites of cultural/spiritual significance to living native California Indians. For general plans or other long range land use planning projects, the goals for consultation with native

California Indians are to obtain a mutually respectful understanding of the long-term needs for protection and treatment of heritage sites, objects, or human native California Indian remains; also to determine future consultations that would be required during the subsequent planning, design and implementation projects. As a result, a Departmental Notice is being prepared which will provide a process to guide consultation with California Native Indians. When that Departmental Notice is completed and issued, it will guide consultation until it is incorporated into DOM section 0400.

State Parks Accessibility Guidelines

The Americans with Disabilities Act (ADA), the federal law that prohibits discrimination on the basis of disability, is applicable to all programs, services, and activities by the state, including the preparation of state park general plans. In compliance with the ADA, the Department published the *State Parks Accessibility Guidelines*, which were first issued in 1994. The *Guidelines* details procedures to make state parks universally accessible while maintaining the quality of park resources. The Department has also published the *All Visitors Welcome: Accessibility in State Park Interpretive Programs and Facilities* (2003), which provides guidance on developing accessible interpretive programs and facilities.

The Department's *Transition and Trail Plans for Accessibility in State Parks* (2001) outlines its commitment to achieve programmatic access throughout state parks. The vision of the Plans is embodied in the Año Nuevo SP General Plan.

California Recreational Trails Plan

The *California Recreational Trails Plan* (Phase One), published in June 2002, addresses the mission and overall role of the California State Parks Statewide Trails Office as well as provides guidelines for future actions of the Statewide Trails Office. The mission and vision of the Statewide Trails Office is to:

> Promote the establishment and maintenance of a system of trails and greenways that serves California's diverse population while respecting and protecting the integrity of its equally diverse natural and cultural resources. The system should be accessible to all Californians for improving their physical and mental well-being by presenting opportunities for recreation, transportation, and education, each of which provides enhanced environmental and societal benefits.

This California Recreational Trails Plan serves as a guideline for establishing and maintaining park trails in California and integrates the Department's trail programs with local government agencies and private organizations that operate and maintain the trails. Furthermore, the plan, the *Trails Policy*, and the *Trails Maintenance Handbook* serve as planning and maintenance guides for trails within the park system.

California State Park Systems Plan

The 2002 *California State Parks Systems Plan* contains both the challenges that face the State Park System as well as the goals, policies, objectives, and proposals for new programs and initiatives needed to guide the State Park System.

California State Park Systemwide Concessions Policies

The Department partners with a variety of businesses, nonprofit organizations, and public agencies through concession contracts, cooperative agreements, and operating agreements to offer the public goods and services. How these opportunities are made available to the public is regulated by the *California Public Resources Code*, Section 5080 et seq.

REGIONAL PLANNING

Consideration of regional planning influences is important for any park planning effort because it enables planners to anticipate and coordinate with regional planning efforts and issues that affect the park. For this general plan, planning considerations include the region around Año Nuevo SP, Año Nuevo SNR, Big Basin Redwoods SP, Butano SP, Portolá Redwoods SP, and Castle Rock SP, as well as the northern boundary of Henry Cowell Redwoods SP. Año Nuevo SNR and SP are integrated within a regional landscape of natural land recreation areas, habitat preservation areas, and recreational trail networks. Consideration is also given to major access routes from areas providing significant visitation to the park as well as connections to other regional recreation destinations.

Año Nuevo SNR and SP are part of the region's chain of parks and natural areas, and like many other public and private natural land ownerships, the parks play an important role in preserving natural and cultural resources and providing recreational opportunities and facilities. A number of non-governmental organizations, such as the Peninsula Open Space Trust, the Sempervirens Fund, and The Trust for Public Land, have also been acquiring property along the southern

San Mateo and northern Santa Cruz coast with the intent of preserving it in perpetuity as natural lands.

Policies and recommendations of existing regional planning documents that are most pertinent to planning for Año Nuevo SNR and Año Nuevo SP are summarized below.

Regional Plans and Programs

San Mateo County General Plan and Local Coastal Program

The 1986 San Mateo County General Plan calls for preservation of agricultural lands for agricultural use, protection of native habitats, animals and plants, and protection and enhancement of the natural visual quality of county lands. It proposes the continued provision of recreational lands for the "physical, mental, and spiritual quality of life of San Mateo County residents." It also defines what the County would like State Parks' role to be:

- "…to give priority to developing existing facilities."
- "…to provide park and recreation facilities of statewide significance."
- "…to be "the principal agency to acquire, develop and maintain Coastal beaches."

The San Mateo County General Plan lists land use objectives for rural areas as: a) preserve natural resources; b) provide for the managed productive use and monitoring of resources; c) provide outdoor recreation; and d) protect public health and safety.

The 1998 San Mateo County Local Coastal Program (LCP) offers specific policies in support of the general policies of the 1986 San Mateo County General Plan. The LCP is also focused on the Coastal Zone within the county. The LCP describes the Local Coastal Program as "…a comprehensive set of land use policies for the Coastal Zone in order to meet the requirements of the California Coastal Act of 1976. These policies encourage the development of recreation-oriented, visitor-serving facilities and the concentration of new development within rural service centers, while providing the maximum protection of access to beaches, the preservation of scenic values, and the protection of agricultural lands." All development in the Coastal Zone requires either a Coastal Development Permit or an exemption from coastal permit requirements.

The following are summaries of the San Mateo County LCP policies that most relate to California State Parks' planning process:

- The marshy area at Gazos Creek is designated as a wetland requiring protection.
- Franklin Point, Año Nuevo Point, and Año Nuevo Island are designated as marine and estuarine habitats requiring protection.
- Franklin Point and Año Nuevo Point are designated as sand dune habitats requiring protection.
- The Coast Highway south of Half Moon Bay, Cloverdale Road, and Gazos Creek Road (from Highway 1 to Cloverdale Road) are designated as Scenic Roads which affords them high levels of scenic protection.
- Priority is given to visitor-serving and commercial recreation facilities on designated Mid-Coast lands and throughout the South Coast over private residential, general industrial or commercial development but not over agriculture or coastal-dependent industry.
- California State Parks is encouraged to give priority to the Mid-Coast (Gray Whale Cove, Montara, and Half Moon Bay State Beaches) for the development of public recreation facilities. Require new development of South Coast recreation facilities to be phased in accordance with a long-range development program that gives priority to development of Mid-Coast facilities.
- Support a trails program that connects recreation facilities along the coast and which connects coastal and inland recreation facilities.
- The Gazos Creek Coastal Access to Butano SP Trail (via Gazos Creek Access Road) is designated as a Local Coastal Program Trail.
- California State Parks is encouraged to specify an alignment for the Pacific Ocean Corridor Trail (also known as the California Coastal Trail).
- State Parks is designated as the primary agency for the acquisition, development and maintenance of public recreation and visitor-serving facilities (including the Pacific Ocean Corridor Trail/California Coastal Trail) in the Coastal Zone.
- California State Parks is encouraged to assume the major responsibility for the acquisition, development, and maintenance of public shoreline access along the coast and to contribute the major portion of funds for

the acquisition of access trails and shoreline destinations and to reimburse the county for their maintenance and operation.

- Non-impacting recreational facilities and uses can locate on agricultural land if in compliance with conversion policies from the Agricultural Component of the county General Plan. Non-impacting recreational facilities and uses can exist next to agriculture if separated by a barrier and if structures are visually compatible with the agricultural areas.
- Developments must comply with sensitive habitat policies while not substantially altering the natural environment or interrupting views.
- As feasible, California State Parks is required to remove pampas grass and invasive brooms from its lands.

California Coastal National Monument, Resource Management Plan

The California Coastal National Monument (CCNM) was created by President Clinton in January of 2000 and was proclaimed a biological and geological treasure that is extremely rich in biodiversity and provides essential habitat for many species of scientific interest. The California Coastal National Monument consists of all unappropriated or unreserved islands, rocks and outcroppings along the coast of California that are above the mean high tide line and not contiguous to the shore in a distance of 12 nautical miles offshore. The designation as a National Monument mandates the protection of historic and scientific objects, particularly wildlife species which normally inhabit the monument area.

The Bureau of Land Management (BLM) was originally charged with managing the monument. In June 2000 the BLM signed a Memorandum of Understanding with the Department of Fish and Game (CDFG) and California State Parks to collaborate in the management of the Monument. Approximately 25% of California's coastline is under State Parks management.

The BLM (with CDFG and State Parks as partners) completed a Resource Management Plan for the Monument in September 2005. The plan is comprehensive in nature and addresses issues in the monument area only. The plan integrates, where possible, the numerous related management issues of the various coastal partners involved in the planning effort. Key implementation priorities for management include protecting CCNM resources and resource values; developing and maintaining partnerships; and CCNM site characterization (specifically identifying and

understanding CCNM resources). Key specific actions include establishing CCNM visitor gateways; seabird conservation; and CCNM connections with tidepools and the intertidal zone.

Central Coast Marine Protected Area

California's landmark Marine Life Protection Act (MLPA) became effective from Pigeon Point to Point Conception on September 21, 2007. This action established a Central Coast Region, composed of 29 marine protected areas (MPAs), from San Mateo County to Santa Barbara County. The central coast is the first of five regions that will eventually lead to a network of MPAs along the state's 1,100-mile coastline. The MPA designation significantly increases the protection that marine life living in the area receives. These protections include long-term safe havens for rockfish and other bottom fishes, migration corridors for salmon, and a diverse environment that abalone, kelp and numerous marine mammals and seabirds need to survive.

The Marine Life Protection Act Program was designed to advance the conservation of marine resources for their long-term sustainable use while also enhancing outdoor recreation and ocean research opportunities along the coast. A main goal of the MLPA is to use these MPAs as research sites where scientists can gain a greater understanding of California's marine and coastal environment and how marine animals and plants interact with little or no disturbance by people. The MLPA process was invigorated as a public-private partnership with the Resources Agency, the Resources Legacy Fund Foundation, the California Marine Life Protection Act Initiative, and the Department of Fish and Game (CDFG) and its Commission.

The offshore area along Año Nuevo State Natural Reserve and Año Nuevo Bay has been included in the Central Coast Marine Protected Area as the "Año Nuevo State Marine Conservation Area" (see **Figure 2**). As defined by the Public Resources Code a "state marine conservation area" [36700(c) PRC] is a non-terrestrial marine or estuarine area that is designated so the managing agency may achieve one or more of the following:

- Protect or restore rare, threatened or endangered native plants, animals or habitats in marine areas;
- Protect or restore outstanding, representative or imperiled marine species, communities, habitats and ecosystems;

- Protect or restore diverse marine gene pools;
- Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative or imperiled marine habitats or ecosystems;
- Preserve outstanding or unique geological features; or
- Provide for sustainable living marine resource harvest.

Restrictions [36710(c) PRC]: it is unlawful to injure, damage, take or posses any specified living, geological or cultural marine resources for certain commercial, recreational, or a combination of commercial and recreational purposes. In general, any commercial and/or recreational uses that would compromise protection of the species of interest, natural community, habitat or geological features may be restricted by the designating entity or managing agency.

Allowable uses [36710(c) PRC]: research, education and recreational activities, and certain commercial and recreational harvest of marine resources may be permitted.

In addition, a Special Closure Area has been designated for the Año Nuevo coastline, the "Año Nuevo Invertebrate Area", to provide special seasonal protection (Nov. 30 to Apr. 30) for all invertebrates within a marine distance of 100 feet to low tide line.

CDFG's marine wardens will patrol and enforce the new MPAs and will continue to monitor fishing activities in other open areas of state waters (shore to three miles).

The Department of Fish and Game has developed a comprehensive website at

www.dfg.ca.gov/mrd/mlpa/ccmpas_list.html

that includes regulations and detailed maps of each of the MPAs.

In addition, Governor Arnold Schwarzenegger formed the California Ocean Protection Council and called for the development of a comprehensive Ocean Action Plan as part of the administration's progressive ocean management efforts, and in response to the Pew and U.S. Ocean Commissions' reports on the health of our oceans.

National Natural Landmarks Program

The National Natural Landmarks Program, established in 1962 and administered by the National Park Service, recognizes and encourages the conservation of outstanding examples of America's natural history. Año Nuevo Point and Año Nuevo Island were designated in August 1980 as a National Natural Landmark by the Secretary of the Interior in recognition of their significance as the best known breeding ground in the world for the northern elephant seal, as habitat for Steller sea lions, California sea lions, and harbor seals, and for the well-represented processes of wave cutting, geologic uplift, and sea level fluctuation along Año Nuevo Point.

Cloverdale Coastal Ranch Plan

The Peninsula Open Space Trust (POST) acquired the 5,638-acre Cloverdale Coastal Ranches in 1997 when it was the largest undeveloped and unprotected property on California's central coast. It is an important element in the central coast natural lands network. In 1998 POST completed an integrated management plan, the Cloverdale Coastal Ranch Plan (Plan). The vision of the Plan is to provide a new interdependent land stewardship and preservation system as well as demonstrate the integrated and healing relationship of nature and human culture. The elements of this vision include sustainable agricultural practices and communities, restored natural coastal ecosystems and landscapes, and a range of recreational and educational activities that are in harmony with the land. Goals in the Plan include: open space and recreation connectivity with Año Nuevo SP and Butano SP; creation of beach access and trail corridors; protection of scenic views from public roads and trails; prevention of development; continuation of private agriculture; and protection of sensitive habitats and natural areas. POST will seek to accomplish its vision and goals through a variety of partnerships with land owners and managers, funding partners, volunteer partners, and education and research partners. Community involvement is an important part of the Cloverdale Coastal Ranch Plan programs.

Midpeninsula Regional Open Space District, Master Plan and Regional Open Space Study

The Midpeninsula Regional Open Space District's master plan (1992) and regional open space study (1998) guide their open space preservation efforts. The master plan sets forth guidelines for MROSD acquisitions and shows the relative desirability of potential open space land acquisitions for the

purpose of "preserving a regional greenbelt along the crest of the hills along the San Francisco peninsula." The regional open space study shows the general extent of lands and public access improvements (both existing and under consideration) to complete the MROSD's greenbelt mission. Both documents are subject to periodic review and modification by the Board of Directors after public hearings. The regional open space study is subject to periodic technical updates. Both documents are submitted to the counties, cities, and other conservation-oriented local, state, and federal agencies and organizations for review and comment in order to encourage coordination with their planning and policies.

The MROSD can provide locally based, long-term stewardship of some lands and offer easement opportunities to willing sellers for agricultural lands. Over the next 15 years, the MROSD anticipates it could purchase or manage approximately 11,800 acres of land within the entire Coastside Protection area. The MROSD promotes watershed protection and is involved in regional recreation planning efforts such as the Skyline-to-the-Sea Trail, the Ridge Trail, and the Bay Trail.

Coast Dairies Long-Term Resource Protection and Access Plan (February 2004)

The Coast Dairies property, over 6,800 acres of northern Santa Cruz County coastal dairy ranch land, is the centerpiece of a regional network of conservation open space, providing opportunities for regional trail development and other recreational linkages, such as beach access. California State Parks currently owns approximately five miles of coastal bluff property and seven acres of inland property. The remainder of the inland property is expected to be transferred to the BLM and a nonprofit group.

A collaborative effort by California State Parks, BLM, TPL, and the Santa Cruz community, the Coast Dairies Plan is a broad planning document and management plan. All transferred property will be managed in accordance with the Coast Dairies Plan. The plan's vision is to preserve the distinctive character and resources of the area which is marked by the interface of the natural rugged coastline, sandy pocket beaches, coastal marine terraces, grasslands, densely forested upland and riparian corridors, and the developed uses of coastal agriculture, mining, Highway 1, and the town of Davenport. The Coast Dairies Plan provides broad direction and guidance on managing and protecting natural and physical resources, visitor use, and development on the property.

Save the Redwoods League's Master Plan for the Coast Redwoods, Santa Cruz Mountains Redwood Conservation Strategy

The Master Plan for the Redwoods is a document developed by the Save-the-Redwoods-League to provide a science-based conservation strategy for the entire coast redwood ecosystem.

The Master Plan for the Redwoods shapes and guides the League's conservation program. By using geographic information systems (GIS) technology and a series of maps, League staff have created detailed regional conservation strategies, including the Santa Cruz Mountains region, that support the Master Plan. These show the League where to focus its work. The Master Plan also gives the League a solid context in which it evaluates opportunities for conservation, facilitating a nimble, well-informed response. As identified in the League's master plan, the greatest stresses to the redwood forest community are habitat loss and fragmentation, and the loss of old-forest components. In addition, the Master Plan identifies conservation partners and opportunities for collaboration.

Information about the Master Plan is available online at: http://savetheredwoods.org/protecting/masterplan.shtml

Wildlife Action Plan

The Wildlife Action Plan is a Department of Fish and Game plan that addresses wildlife and habitat issues in all of California's ecological regions. In 2000, Congress enacted the State Wildlife Grants Program to support state programs that broadly benefit wildlife and habitats but particularly "species of greatest conservation need." In order to receive funding under this program, state wildlife agencies were required to submit a Wildlife Action Plan (comprehensive wildlife conservation strategy) to the U.S. Fish and Wildlife Service in 2005. The California Department of Fish and Game (Fish and Game), working in partnership with the Wildlife Health Center, University of California, Davis, directed the development of this report, *California Wildlife: Conservation Challenges*, the state's Wildlife Action Plan, and associated Web publications. *California Wildlife: Conservation Challenges* is directed at answering three primary questions:

- What are the species and habitats of greatest conservation need?
- What are the major stressors affecting California's native wildlife and habitats?

- What are the actions needed to restore and conserve California's wildlife, thereby reducing the likelihood that more species will approach the condition of threatened or endangered?

The responses to those questions involve recommended statewide conservation actions and the region-specific conservation actions that are necessary to restore and conserve ecosystems and wildlife populations. The threats identified for the Central Coast Region are growth and development; intensive agriculture; excessive livestock grazing; water management conflicts and degradation of aquatic ecosystems; recreational pressures; and invasive species. Recommended region-specific conservation actions that are pertinent to California State Parks and Año Nuevo SNR and SP are found in the Central Coast Region chapter. Some of these conservation actions include working to protect large, relatively unfragmented habitat areas and wildlife corridors; protecting sensitive species and important wildlife habitats; working to restore fish passage in aquatic systems important for anadromous and wide-ranging fish populations; and providing resources and coordinating efforts to control existing occurrences of invasive species and prevent new introductions. Access to the Wildlife Action Plan is available at:
http://www.dfg.ca.gov/wildlife/WAP/report.html

Information used from the Wildlife Action Plan that is pertinent to Año Nuevo State Park should be consistent with Save the Redwoods League's Master Plan for the Redwoods, Santa Cruz County region, as well as the goals and guidelines of this general plan.

California Coastal Trail

The California Coastal Trail (CCT) is a Coastal Conservancy plan for a network of public trails for walkers, bikers, equestrians, wheelchair riders and others along the entire California coastline. It is currently more than half complete. The CCT is envisioned as a continuous public right-of-way along the California coastline; a trail designed to foster appreciation and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-motorized transportation.

In addition, a broader set of objectives were drawn for the Coastal Trail Project:

1. Provide a continuous trail as close to the ocean as possible, with vertical access connections at

appropriate intervals and sufficient transportation access to encourage public use.

2. Foster cooperation between State, local and federal public agencies in the planning, design, signing and implementation of the Coastal Trail.

3. Increase public awareness of the costs and benefits associated with completion of the Coastal Trail.

4. Assure that the location and design of the Coastal Trail is consistent with the policies of the California Coastal Act and local coastal programs, and is respectful of the rights of private landowners.

5. Design the California Coastal Trail to provide a valuable experience for the user by protecting the natural environment and cultural resources while providing public access to beaches, scenic vistas, wildlife viewing areas, recreational or interpretive facilities and other points of interest.

6. Create linkages to other trail systems and to units of the State Park system, and use the Coastal Trail system to increase accessibility to coastal resources from urban population centers.

Policy makers and coastal managers have long planned for a continuous coastal trail in California. The Coastal Act of 1976 required local jurisdictions to identify an alignment for the California Coastal Trail in their Local Coastal Programs. Proposition 20, 1972, provides that "A hiking, bicycle, and equestrian trails system shall be established along or near the coast" and that "ideally the trails system should be continuous and located near the shoreline."

The California Coastal Trail was designated California's Millennium Legacy Trail in 1999 by Governor Davis and the White House Millennium Council, encouraging federal agencies to assist in developing it. State legislation in 2001 aimed at a focused effort to complete the Coastal Trail. Assembly Concurrent Resolution 20 (Pavley) declares the Coastal Trail an official state trail and urges the Coastal Commission and Coastal Conservancy to work collaboratively to complete it. Senate Bill 908 (Chesbro) charges the Coastal Conservancy, in cooperation with the Coastal Commission and State Parks Department, to submit to the Legislature a plan that describes how the Coastal Trail may be completed. In response to legislative direction, Coastal Trail completion objectives, strategies, and outcome measures were prepared

and included in 2007 as a part of the Coastal Conservancy's comprehensive "Strategic Plan" document.

REGULATORY INFLUENCES

There are a number of agencies involved in planning or regulatory authority in the region. Año Nuevo SNR and SP are within the coastal zone and are under the jurisdiction of the San Mateo County Local Coastal Program (see **Figure 7**, Coastal Zone). The coastal zone designation regulates development activities and use intensity that could have implications for park development and visitor use. The parks also span areas regulated by various air and water quality boards and regional planning agencies. These regulations are also considered in the park's planning and management decisions.

California Coastal Commission, Central Coast District

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and made permanent by the Legislature in 1976 as the Coastal Zone Management Act (CZMA). The primary mission of the Commission, as the lead agency responsible for carrying out California's federally-approved coastal management program, is to plan for and regulate land and water uses in the coastal zone consistent with the policies of the CZMA (see **Figure 7**, Coastal Zone).

The most significant provisions of the CZMA give state coastal management agencies regulatory control (federal consistency review authority) over all federal activities and federally licensed, permitted or assisted activities, wherever they may occur (i.e., landward or seaward of the respective coastal zone boundaries fixed under state law) if the activity affects coastal resources. Examples of such federal activities include: outer continental shelf oil and gas leasing, exploration and development; military projects at coastal locations; U.S. Army Corps of Engineers fill permits; certain U.S. Fish and Wildlife Service permits; and highway improvement projects assisted with federal funds. Federal consistency is an extremely important coastal management tool because it is often the only review authority over federal activities affecting coastal resources given to any state agency.

The California Coastal Commission jurisdiction in the coastal zone (which is specifically mapped) applies to all private and public entities. It covers development activities, including any division of land, a change in the intensity of use of state waters and of public access to them. The Coastal Act includes specific policies (see Division 20 of the Public

Resources Code) relating to such activities as public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, water quality, transportation, development design, and public works. For all projects at Año Nuevo SP and SNR within the coastal zone, compliance with the Coastal Act is administered through a Local Coastal Program by the counties.

State Water Resources Control Board

Año Nuevo SP lies within the Big Basin Hydrological Unit of the Central Coast Regional Water Quality Control Board jurisdiction. The RWQCB has regulatory authority in regard to water quality at the park. The Central Coast Regional Water Quality Control Board falls within the oversight of the State Water Resources Control Board (SWRCB). The mission of the SWRCB is to ensure the highest reasonable quality of waters in the state, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters. The mission of the Regional Water Quality Control Boards is to develop and enforce water quality objectives and implementation plans which will best protect the beneficial uses of the state's waters, recognizing local differences in climate, topography, geology, and hydrology.

California Air Resources Board, Bay Area Air Quality Management District

The California Air Resources Board (ARB) regulates emissions sources and oversees the activities of the local Air Pollution Control Districts and Air Quality Management Districts. The ARB regulates local air quality by establishing state ambient air quality standards and vehicle emissions standards. The ARB is also responsible for monitoring and reducing greenhouse gas emissions. On September 27, 2006, the California Global Warming Solutions Act of 2006 (AB 32) was signed. This legislation will create a comprehensive multi-year program to reduce greenhouse gas emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020. The Act also directs state agencies to consider and implement strategies to reduce their greenhouse gas emissions.

The Bay Area Air Quality Management District's (BAAQMD) seven-county jurisdiction encompasses Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa counties, and southwestern Solano and southern

Sonoma counties. The mission of the BAAQMD is to achieve the goal of clean air to protect the public's health and the environment of the San Francisco Bay region. The BAAQMD uses a progressive approach to regulating air pollution. By adopting reasonable air quality plans and then following through with regulations sensitive to the socio-economic impacts, flexible permitting, compliance assistance, and proactive enforcement, the BAAQMD has one of the most responsive air programs in the nation. The BAAQMD has established a Climate Protection Program to reduce pollutants including greenhouse gas emissions that contribute to climate change. The climate protection program emphasizes collaboration with ongoing climate protection efforts at the local and state level, public education and outreach, and technical assistance to cities and counties.

California Department of Fish and Game

The California Department of Fish and Game (CDFG) is the trustee agency for the state's plant and wildlife resources. As such, it has regulatory authority over the state's special plant and wildlife species. Any project that has the potential for direct or indirect impacts to state-listed plant or animal species or Species of Concern requires consultation with CDFG. Authorization for "take" of listed species (i.e., an Incidental Take Permit) and mitigation may be required.

Any project that involves work within a streambed or stream banks of any permanent or intermittent stream requires a permit from the CDFG under Section 1601 (i.e., a Streambed Alteration Agreement) of the Fish and Game Code. A Streambed Alteration Agreement is also needed for any project that will divert, obstruct, or change the natural flow of any river, stream, or lake; use materials from a streambed; or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake.

United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) has regulatory authority over federal, threatened, and endangered plant and animal species and Species of Concern. Whenever a federally listed plant or wildlife species, Species of Concern, or designated (or proposed) critical habitat occurs within a proposed project area, California State Parks is required to consult with the USFWS on direct or indirect impacts to those species or their habitat as a result of the project. Consultation with the USFWS may result in the

need for an Incidental Take Permit and/or required mitigation measures.

National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) has regulatory authority over federally-listed marine or anadromous fish species and their habitats. Whenever a proposed project has the potential to result in direct or indirect impacts to a federally-listed marine or anadromous fish or their habitats, California State Parks is required to consult with NMFS. Consultation with NMFS may result in the need for an Incidental Take Permit and/or required mitigation for project impacts to these species or habitats.

United States Army Corps of Engineers

The United States Army Corps of Engineers (USACOE) is a federal agency mandated to regulate certain types of activities in wetlands and waters of the U.S. under the following sections of Federal law: 33 CFR – Navigation and Navigable Waters (COE); 40 CFR – Protection of Environment (EPA); Section 9 of the Rivers and Harbors Act of 1899; Section 10 of the Rivers and Harbors Act of 1899; Section 404 of the Clean Water Act; and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. Under these sections, the USACOE requires permits for the discharge of dredged or fill material into any water of the U.S. or wetland under its jurisdiction. A permit from USACOE must also be obtained for any and all structures, whether permanent or temporary, that are planned to be in or over any navigable water of the U.S. and those that affect the course, location, or condition of the water body. Types of projects requiring permits from the USACOE include placement of wharves, dams, dikes, pilings, weirs, breakwaters, jetties, bank protection, aerial or subaqueous power transmission lines, intake or outtake pipes, permanently moored floating vessels, tunnels, artificial canals, boat ramps, aids to navigation, and any other permanent or semi-permanent obstacle or obstruction. Permits are also required from the USACOE for any project that requires dredging of, or placement of fill into, any wetland or water of the U.S. and for the transportation of dredged material for the purpose of dumping it into ocean waters.

REGIONAL AGENCIES AND NON-GOVERNMENTAL ORGANIZATIONS

The following are several governmental and non-governmental organizations that are actively involved in planning and acquiring natural open space lands in this region.

Association of Bay Area Governments

The Association of Bay Area Governments (ABAG) is a regional council of local governments operated by the cities and counties of the San Francisco Bay Area. It was established in 1961 to protect local control, plan for the future, and promote cooperation on regional issues. ABAG's regional jurisdiction includes 100 cities and the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. More than six million people live in this 7,000 square mile area.

Through its role as an association of cities and counties, ABAG has been designated by the state and federal governments as the official comprehensive planning agency for the Bay Area. Its locally-adopted Regional Plan provides a policy guide for planning the region's housing, economic development, environmental quality, transportation, recreation, and health and safety. One of ABAG's vital functions is to provide a forum to resolve local differences through workable compromises. Its active public information program encourages citizen involvement in planning and policy decisions.

Useful ABAG studies cover demographics, transportation, air and water quality, earthquake information, smart growth, and land-use planning. Understanding the conditions and trends in the region helps planners understand the visitors who come from this area and how they may affect the park.

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) serves as a forum for planning, discussion and study of regional issues of concern to Monterey, San Benito and Santa Cruz counties; as well as the development of studies, plans, policy, and action recommendations. This jurisdiction is adjacent to Año Nuevo SP and SNR. Useful AMBAG studies and reports cover demographics, transportation, air quality, water quality, and land-use planning.

Midpeninsula Regional Open Space District

The Midpeninsula Regional Open Space District (MROSD) is an independent special district with the single purpose of preserving regional open space lands in a natural condition. The MROSD, located in the mid- and southern portions of the San Francisco peninsula, currently manages nearly 50,000 acres of land, in 26 open space preserves. These preserves range in size from 55 acres to 15,000 acres. The MROSD's purpose is to acquire, permanently protect, and restore lands forming a regional open space greenbelt. It also provides recreation opportunities in an ecologically-sensitive way and educates the public about these lands. The MROSD has an active acquisition program in pursuit of these purposes. Facilities and improvements on these lands are typically limited to trails and parking areas intended to enhance public access and enjoyment of these natural areas.

Peninsula Open Space Trust

Peninsula Open Space Trust (POST) is a regional nonprofit organization working to protect land as parks and open space. POST has purchased lands in this region using a combination of public and private funds, and has sold the land to public agencies when further public funds were available. Through this productive partnership, important open space has been protected and POST has been able to leverage its available land acquisition funds. POST has been involved most recently in open space acquisitions north of Año Nuevo SP and SNR, with its 640-acre conservation easement for Pesky Ranch, and at Pigeon Point Light Station State Historic Park, where Whaler's Cove, a three-acre parcel of land, was transferred to California State Parks in 2005. POST owns over 5,600 acres west of Cloverdale Road and northwest of Año Nuevo SP known as the Cloverdale Coastal Ranches. Stretching from the Pacific Ocean to the base of the Santa Cruz Mountains, the land includes sandy beaches, coastal bluffs, grasslands, creeks, and woodlands. The ranch supports many species of birds, rare plants, and large mammals. Farmers grow artichokes, leeks, and Brussels sprouts on nearly 400 acres.

Save-the-Redwoods League

The Save-the-Redwoods League (League) was founded in 1918. As a leader of the movement to preserve the coast redwood and giant sequoia, the League has assisted in permanently protecting hundreds of thousands of acres of redwood forest. Its primary conservation tool is acquisition of forest land from willing sellers. The League also funds

restoration, supports research to expand knowledge about the redwood forest, and educates the public about the redwoods and the redwood forest ecosystem. The League has assisted in establishment and expansion of parks in the southern range of the redwood forest including Big Basin Redwoods, Portola Redwoods, Butano, Wilder Ranch, Julia Pfeiffer Burns, and Limekiln State Parks. The League also has developed (in partnership with State Parks and The Nature Conservancy) a "Master Plan for the Redwoods, Santa Cruz County" which is a regional conservation strategy.

Sempervirens Fund

The Sempervirens Fund is a nonprofit organization working to preserve redwood forest lands as parks and open space. Donations to the Sempervirens Fund are used to purchase threatened redwood forest property in the Santa Cruz Mountains region.

The Trust for Public Land

The Trust for Public Land (TPL) is a national nonprofit organization working to protect land as parks and open space. TPL is not a government agency, although it sometimes works with agencies to protect open space land. TPL assists communities and government agencies in identifying land for protection. It identifies funds that might be used to protect that land, and sometimes helps raise funds through charitable campaigns and legislative or voter initiatives. TPL's real estate and legal staff also help complete the transaction itself, often optioning or purchasing a property and holding it until it can be permanently protected by a government or community land trust. TPL has been involved in open space protection in this region, particularly at Coast Dairies and Año Nuevo SP.

University of California Natural Reserve System

In 1965, the University of California established the Natural Reserve System (NRS). The mission of the NRS is to contribute to the understanding and wise management of the earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California. The NRS make relatively undisturbed samples of the state's natural ecosystems and the facilities needed to support teaching and research available not only to students, teachers, and researchers from the University of California, but to any qualified user from any public or private institution throughout the world. The NRS is the largest university-operated system of natural reserves in the world.

The NRS has assembled, for scientific study, a system of protected sites that broadly represent California's rich ecological diversity. By creating this system of outdoor classrooms and laboratories and making them available for long-term study, the NRS supports a variety of disciplines that require field work in wildland ecosystems. Año Nuevo Island Reserve was established as a unit of the NRS in 1970. The Año Nuevo Island Reserve operates with a use agreement between the University of California and the California Department of Parks and Recreation. Due to the highly sensitive habitats and protected marine mammals at the island, reserve access and use is restricted to approved research projects. Research on the island is enhanced by the use of historic buildings. Selected research at Año Nuevo Island includes:

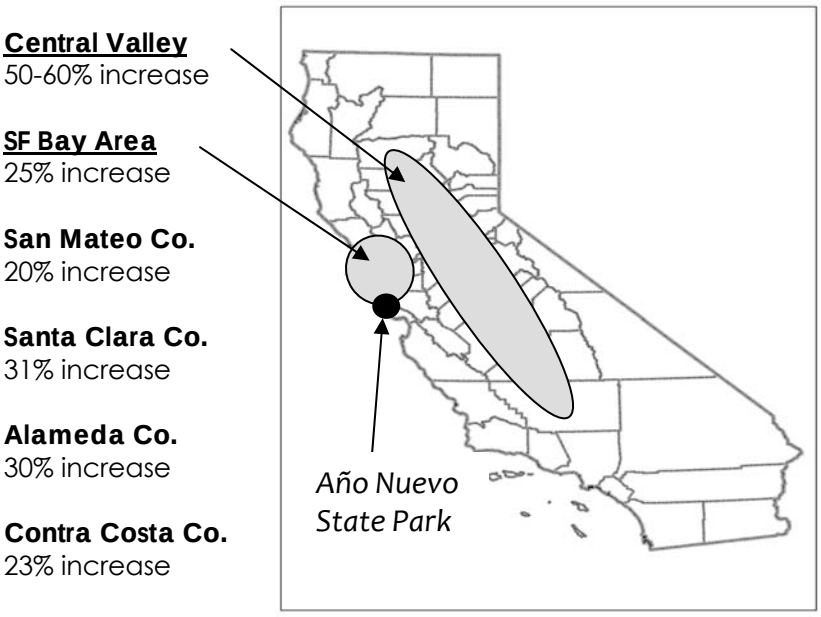
- Northern elephant seals: effects of low-frequency sound in the marine acoustic environment; geographic-reference behavior during migrations; buoyancy and swimming effort; predator-prey relationships with white sharks; and developmental physiology of pups during natural, prolonged fasts.
- Steller sea lions: population monitoring.
- Rhinoceros auklets: conservation, demography, and food habits.

DEMOGRAPHICS, TRENDS AND PROJECTIONS

During the last fifty years the importance of outdoor recreation to Californians has steadily grown. During the last several decades, changing demographics and user interests and demands require recreation planners to be responsive to several factors that will affect the future use and development of Año Nuevo SNR and SP. The following are several key factors which will affect future use patterns, management decisions, and facilities and programs at state parks located in and around the Santa Cruz Mountains.

Population Increase and Park Visitation

California's population approached 37.7 million persons as of January 2007, according to the California Department of Finance. California, the nation's most populous state, represents 12.5 percent – one out of every eight persons – of the United States population. The state's population grew almost 1.3 percent in 2006 – adding close to 470,000 residents – mirroring the growth pattern of 2005. The state has increased by nearly 3.8 million persons – 11.2 percent – since the last census on April 1, 2000.



Park Visitors - Major Areas of Origin
Population Growth 2000 to 2020

Even though the current population growth figures have slowed in comparison to earlier projections, perhaps in response to a slower national economy, population growth in California continues to remain strong.. Between 1987 and 2002 the state's population grew by 25%, and according to the Association of Bay Area Governments (ABAG), the population of the San Francisco Bay Area is projected to increase 20% by the year 2025. This equates to an additional 1.4 million residents living in and around the San Francisco Bay. The majority of visitors to the Santa Cruz Mountains state parks live in the Bay Area communities of San Mateo, Alameda, Santa Clara, San Francisco and Contra Costa counties. Ninety-seven percent of this population participates in some form of outdoor recreation activity at least a few times a year, with almost half participating twice a week or more (Bay Area Open Space Council 2004). Due to these factors, along with California's explosive population increase, it's projected that demand for recreational opportunities in these coastal state parks will certainly increase. With the projected population growth rates in the Bay Area and California, even activities with static or declining rates of participation will grow in absolute numbers because there will simply be more people to participate.

Table 2 - 8
Selected County Populations

County	Population 2007
Alameda	1,526,148
Contra Costa	1,042,341
Merced	251,510
Sacramento	1,406,804
San Francisco	808,844
San Joaquin	679,687
San Mateo	726,336
Santa Clara	1,808,056
Santa Cruz	264,125
Solano	424,823
Stanislaus	521,497
Yolo	193,982

Living costs and escalating home prices in the San Francisco Bay Area is prompting home buyers to move to less expensive

areas where commutes are much longer such as the burgeoning Central Valley where home prices and quality of life issues are important. Yet these former residents occasionally return to the Bay Area for recreation pursuits and it is expected that the Santa Cruz Mountains will continue to be popular with Central Valley residents seeking to escape the of the valley during the hot summer months.

Transplanted Bay Area residents form relationships in their new communities and share their positive experiences at this park and parks nearby such as Big Basin Redwoods SP, increasing visitation to all Santa Cruz Mountains parks by people who live far away. The Central Valley's population is projected to sharply rise in the next three to four decades, increasing anticipated visitation to Bay Area and Santa Cruz parks from valley communities such as Stockton, Sacramento, Modesto, Merced, and Fresno.

Please see **Appendix K** for more information on San Francisco Bay Area population growth from 2000–2020.

Age and Technology Factors

By 2010, one in five Californians will be older than 60, and by 2020, the senior population will double due to the aging of the "baby boomers." It is predicted that the boomers will have expectations of recreation providers and active recreational abilities that their parents didn't have due to improvements in overall fitness and advances in medical technology. In addition, baby boomers are typically better educated and more knowledgeable about legislative advocacy so the expectation is that they will ask for services more readily than previous generations. Raised in relative prosperity, they will anticipate more amenity-rich and meaningful recreational experiences and programs, including park facilities and infrastructure such as RV campgrounds, alternative overnight accommodations, and facilities that they can use their high tech equipment such as GPS units, bikes, kayaks, backpacking equipment and fishing gear. In addition baby boomers will have mobility enhancement issues, and are anticipated to be interested in conservation and heritage programs as well as volunteer activities where they can contribute their knowledge and time. They will have an appetite for adventure and high quality programs and an aversion to slowing down as they age (California State Parks 2005).

New technology is engendering new forms of recreation, and broadening the user base of existing recreational pursuits.

Recreation equipment is being custom designed by using the user's body mass index using graphite and titanium alloy materials. Although expensive to do so now, as technological

advances continue it is expected that this 'customization' will decrease in cost and become more available to a larger consumer group. There is also a perception that custom tailored equipment will shorten the learning curve for the skill needed for the recreation activity. And, as technological advances continue, whole new forms of recreational pursuits appear. These activities such as Geocaching using global positioning systems will continue in popularity as will Wi-Fi.

Implications to population changes mean that park service providers will need to expand lands, programs, services and facilities to accommodate the future influx of anticipated user groups. Lands not acquired now may be unavailable or likely too costly in the future and certainly programs and opportunities will need to be evaluated and updated constantly to reflect the interest and demands of a rapidly changing California population.

Thirty-seven percent of California's foreign born arrived since 1990. With such a diverse group of users, greater emphasis will need to be placed on programs that attract a variety of people. For example, many immigrants to the Bay Area are unfamiliar with the kinds of facilities and services provided at Butano State Park. Ways to educate and encourage these diverse groups and newcomers to become users of and advocates for parks and recreation will have to be developed.

In 1960 the baby boom was the largest group in the total population of the state; in 2000, boomers were still a major group but were surpassed in numbers by the 5-9 year old group. The most populous age groups of California's youngest citizens are on average two full years younger than the U.S. average, due to recent immigration. By 2020, it is projected that California's young adult group (ages 18–40) will still be the most populous in the state (California Dept. of Finance 2004), and will be more mobile, dependent on technology, and comfortable with change and cultural diversity than their predecessors. This age group is fueled primarily by recent immigration with families including young children and high birth rates and unfortunately, these young (and new) Californians are not necessarily connected to outdoor recreation activities and programs of the kind California State Parks typically provides. For recreation they will most often prefer to travel, participate in extreme (at risk) sports, attend movies and go on day trips often combining multiple activities and experiences (California State Parks 2005).

The Bay Area's population age demographics show a typical baby boom aging pattern. However, the proportion of

younger age groups in the total Bay Area population is larger than the baby boom generation's was statewide, and it is larger than the younger age groups in the statewide population. This indicates an even higher potential recreation demand by this young Bay Area age group for nearby relevant recreational facilities and experiences.

Latent Demand for Outdoor Recreation

The seventh in a series of surveys of 2,512 representative adults throughout California showed that the trend for all segments of the population during the 1990s was to engage in some outdoor recreation more often (Roper Starch Worldwide, Inc. 2000). Camping grew in popularity as the decade drew to a close and has continued to be popular into the new century. California State Parks' *2002 Public Opinion and Attitudes on Outdoor Recreation Survey* shows that outdoor recreation areas and facilities are very important to the quality of life for most Californians and that there is a strong public belief that the protection of the natural environment is an important aspect of outdoor recreation (California State Parks 2002a).

Based on unmet demand and public support, Californians believe the following outdoor recreation activities should have top priority for expenditure of public recreation funds (California State Parks 2002a):

- Camping in developed sites
- Trail hiking
- Walking for fitness and fun
- Wildlife study
- Picnicking in develop sites
- Visting historic-cultural sites
- Visiting museums, zoos, etc.
- Bicycling
- Beach activities
- Camping in RV sites

The U.S. Forest Service's *National Survey on Recreation and the Environment – 2000–2003* shows the current top recreation pursuits in the Santa Cruz Mountains area are:

- Walking and hiking
- Family gatherings
- Viewing/photographing natural scenery
- Visiting outdoor nature centers

- Picnicking in developed sites

Campground demand will continue to grow in California, especially for RV camping and alternative camping such as cabins, tent cabins, and yurts.

Campground demand will continue to grow throughout California, particularly for RV and alternative campground facilities. This is for the most part true for aging baby boomers who seek convenience and relaxation and who are still inclined to enjoy camping, may have limited mobility, but have grown weary of the preparatory steps such as setting up tents. Also families and single parents with young children who seek quality time with their family and less work such as single moms who are concerned about safety and security are found to be pleased with tent cabins and yurts. During the peak season and holiday weekends many state park campgrounds are full and campers are turned away. California State Parks has been able to add very few campsites during the last ten years, and no coastal campsites. Population growth and demand is so high that if California State Parks were to add 325 campsites a year, it would not keep up with demand (California State Parks 2002a). The situation for day use picnic sites is similar.

The *National Survey on Recreation and the Environment 2000-2003* indicates that camping in developed sites was an activity that approximately 37% of the residents of the Bay Area participated in. With the dramatic projected increases in statewide and regional populations, especially of younger, active people interested in family and group recreational experiences, camping will continue to be an important and well-used type of recreation facility in these parks in the future.

Changing Ethnic Patterns

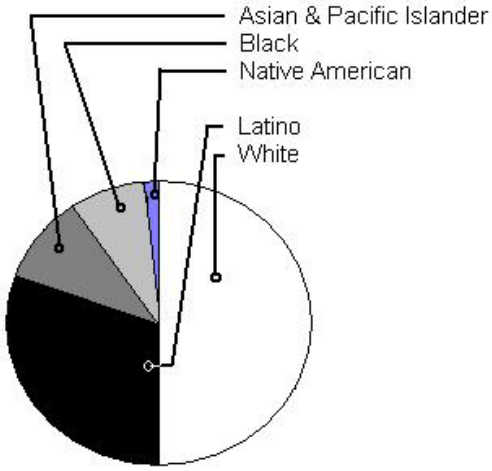
Changes in California's ethnographics appear to be creating a change in recreation uses in state parks.

The relatively large Latino and Asian populations located in the San Francisco Bay Area and in Central Valley counties, combined with changing ethnicity patterns in California, will directly affect visitor demographics at Año Nuevo SP. In fact, a language other than English is spoken roughly in 40 percent of California households. And, roughly 25 percent of K-12 students are learning English as their primary language. California ethnic facts are impressive – over one-third of Asian Americans live in California and nearly one-third of Hispanic Americans call California home.

California's total Latino population grew from 20% in 1990 to 32.4% according to the 2000 U.S. Census. Population projections for Santa Clara, Santa Cruz and San Mateo counties show a 38% increase in the Latino population and a 49% increase in Asian populations by 2020, compared with

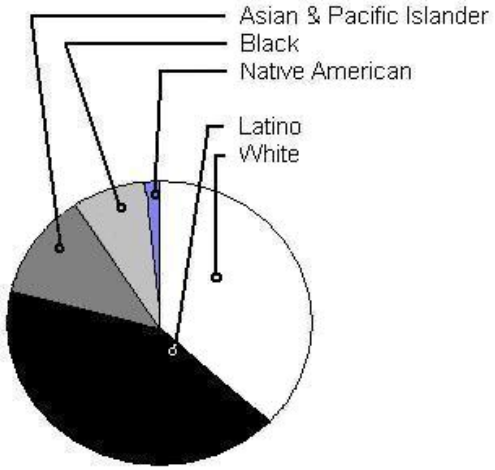
only moderate increases or slight reductions for other ethnic groups. This increase suggests that the mix of user groups and the corresponding facility needs at parks may be changing. For example, there is a correlation between Latinos recreating in large, often family-based groups and a high demand for developed recreation sites, particularly those with picnic tables, barbeque grills and parking lots. Group picnics also tend to be longer in duration than for other ethnic groups, as many food items are prepared on site (California State Parks 2002a). Asian Americans also spend time outdoors with family and friends and like to be near natural areas to view and photograph wildlife and hike and bicycle on park trails (Bay Area Open Space Council 2004).

It is clear that the San Francisco Bay Area population is changing. This is also true for the Central Valley, another potential visitor base for the park. Population projections for Sacramento, San Joaquin, Yolo and Solano Counties suggest that from 2000 to 2020 there will be a 256% increase in the Latino population, which will then comprise 33% of the population in these four counties. In the same four Central Valley counties, the Asian American population is expected to double in the same time frame to comprise just over 15% of the population. African-Americans and other ethnic groups will also increase as a percentage of the population, while in certain Central Valley counties the percentage of whites will decrease. The implications of these demographic changes for recreation demand will compel future planners to provide recreation facilities and public participation opportunities that will satisfy these emerging user groups.



California Population 2000

The charts at right show projected ethnographic changes in California between 2000 and 2020.



California Population 2020

OPPORTUNITIES FOR PUBLIC INPUT

California State Parks uses a variety of methods to solicit public input during the preparation of general plans including public meetings and workshops, visitor surveys, and posting planning information on the Department's web site. Identifying issues that the General Plan should address were also obtained during the California Environmental Quality Act (CEQA) Notice of Preparation public comment period.

Public Meetings and Workshops

California State Parks held public meetings to solicit input for the preparation of the General Plan. The majority of attendees at these meetings were adjacent residents or members of local communities. Few people attended the first

public meeting held August 26, 2003 at the La Honda-Pescadero School District Office in Pescadero. The purpose of this meeting was to identify issues and concerns for the parks and to gather input on desired recreational activities. This type of public meeting was also held during the concurrent planning processes for Butano SP and Big Basin Redwoods SP. In December 8, 2007, a public open house was also held the La Honda-Pescadero School District Office in Pescadero. The Open House provided a preview of the draft plan proposal highlights for Año Nuevo SP & SR and Butano SP, share information on the key natural and cultural resources identified in the planning process, update participants on the regional planning process and context, and gather further public input.

A Notice of Preparation (NOP) was prepared and filed by the Department on September 30, 2003. Many issues identified and discussed at the public scoping meeting were included in the NOP. The purpose of the NOP is to gain input from other agencies, organizations and individuals identifying additional issues that should be addressed in the General Plan/EIR. The Department received input during the NOP comment period, including concerns about conversion of existing agricultural lands to park and recreation purposes.

Through public meetings, agency and stakeholder briefings, surveys, and posting planning information on the project website, the planning process has encouraged public participation.

Visitor Surveys

Written visitor surveys at Año Nuevo SNR were conducted from 1997 through 2001. The approximately 250 responses were examined to help identify potential issues considered during the planning process. Most comments related to visitor experience and park facilities, such as the availability of restrooms in the Visitor Center area, the limited time allotted for the guided elephant seal tours, the desire for more trail hiking opportunities, and more extensive and varied interpretive programs and methods.

Continued Public Involvement

Subsequent to the completion and approval of the General Plan, there will be public input opportunities on future management plans and project efforts that implement the recommendations of the General Plan. This includes California Environmental Quality Act public review of proposed projects.

Issues

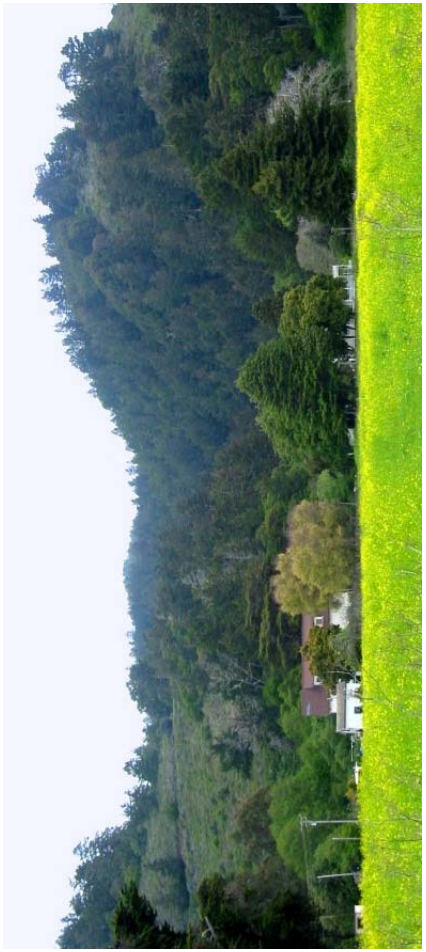


Photo on reverse: Cascade Ranch historic building area,
Año Nuevo State Park

Chapter 3: Issues

The Issues section identifies planning assumptions and key parkwide issues that were identified during the planning process. These issues were identified during the statewide and regional analysis for natural, cultural, and recreational resources, public workshops, stakeholder meetings, and through discussions with park staff. The following are the primary planning issues the general plan addresses, through parkwide management guidelines or guidelines for specific park areas.

3.1 PLANNING ASSUMPTIONS

The following assumptions are based on current state and federal laws, regulations, and Department policy, which form the basis for planning and sets the parameters for addressing general planning issues for Año Nuevo SP and Año Nuevo SNR.

California State Parks will:

- Manage and protect rare, threatened and endangered species and sensitive wildlife habitats, including the coastal, marine, and old growth redwood habitats, as required by federal and state laws.
- Coordinate and collaborate with agencies and regional partners on regional conservation actions such as DFG's Wildlife Action Plan recommendations for the Central Coast Region and the Marine Region. These include:
  - Work with land use planning processes to establish regional goals for species and habitat protection.
  - Work with private landowners and land managers to implement agricultural management practices that are compatible with wildlife and habitat conservation
  - Protect large unfragmented habitat areas, wildlife corridors, and underprotected ecological community types
  - Protect sensitive species and wildlife habitats

  - Provide greater resources and efforts to control invasive species and prevent new introductions
- Preserve the park's cultural resources, including historic structures and landscapes, following the Secretary of the Interior's *Standards for the Treatment of Historic Properties.*
- Consult with Native Californian Indian groups and obtain a mutually respectful understanding of the long-term needs for protection and treatment of heritage sites, objects, or human remains; also, to determine future consultations that would be required during the subsequent planning, design and implementation projects.
- Maintain and increase, where appropriate, the overall level of recreational opportunities for state parks located in the San Mateo coast and Santa Cruz Mountain regions.
- Consider the issues and concerns of adjacent land owners and residents during the planning and implementation process; seek input from local, regional, and statewide interests.
- Coordinate with planning efforts in adjacent state parks and with other open space providers and agencies to evaluate potential connectivity and compatibility of recreational and interpretive opportunities and resource management programs.
- Continue to provide vehicle access from State Highway 1 to the park.

3.2 PARKWIDE ISSUES

RECREATION DEMAND AND VISITOR OPPORTUNITIES

As the population continues to increase and diversify in the Santa Clara Valley and Bay Area, the demands for outdoor recreation will grow, both in the numbers of people desiring an outdoor experience and in the types of recreational activities they seek along the San Mateo coast and in the Santa Cruz Mountains. The proximity of the unique resources of both Año Nuevo SNR and Año Nuevo SP to nearby high density urban centers can help serve a high regional demand for recreation.

Año Nuevo State Natural Reserve

The primary visitor activity at the Reserve is viewing elephant seals in their natural habitat, particularly during breeding season which occurs mid-December through March. This is one of the state park system's most popular wildlife experiences and valuable natural resource interpretation programs. The visitor opportunities for viewing elephant seals (guided tours, limited access, and limited visitor numbers) within the Wildlife Protection Area are working well to protect the natural resources and provide wildlife viewing. Planning efforts analyzed current visitation numbers and resource management programs to determine if they effectively serve state-wide visitor needs and demands while protecting elephant seal habitat. The park's visitor center serves this popular activity as well as other marine education aspects and park orientation. Existing facilities were evaluated for their effectiveness in serving current visitor numbers with particular attention focused on the main visitor parking area. School group staging area activity can cause traffic congestion at the visitor center parking area. Options for a separate staging area and trail route for school groups were evaluated to improve circulation efficiency and visitor experience. Other recreation activity at the Reserve includes hiking, shoreline fishing, and beach activities.

Año Nuevo State Park

There is potential for new recreation opportunities at Año Nuevo SP where formal park access and facilities have not been established. Año Nuevo SP, along with other regional parks and natural areas, can play an important role in providing more diversified and accessible recreational activities as well as additional recreation facilities. The proximity of the park's unique resources to nearby high density urban centers generates a high demand for recreation. Currently regional recreation demand is exceeding supply during May through October with camping, picnicking, and trail use being the most popular activities. Further evaluation of the historic Cascade Ranch will determine the type of visitor opportunities that may be appropriate in this area. The General Plan recommends a process to determine appropriate levels of visitor use and resource protection in the park.

PUBLIC ACCESS AND CIRCULATION

Año Nuevo State Natural Reserve

Existing access to Año Nuevo SNR is provided by State Highway 1. The main entrance is located at the southern portion of the Reserve near Año Nuevo Point. Existing park infrastructure (parking and trails) have been developed to provide public access to the coast and wildlife viewing.

High speeds and the narrow layout of the highway can create difficult situations for vehicles entering and leaving the park. This is particularly evident at the five informal parking areas located in the northern coastal section of the Reserve. Planning considered providing safe access and visitor facilities in these locations. South of the main entrance, a former gated entrance road on the west side of Highway 1 is unmonitored for entry and has private land on either side. An adjacent pullout on the west side of the highway serves as a trailhead area for coastal access to Año Nuevo Bay and an informal hiking trail crossing a narrow historic bridge connects this southern access to the visitor center area. Evaluations were made on the appropriateness of this access and whether any improvements are warranted.

Coastal access north of Año Nuevo Point is provided by five coastal trailheads along State Highway 1. These existing trails provide access to Franklin Point, Gazos Beach, and the coastline. Some existing trails traverse sensitive wetlands and dunes and informal volunteer trails have been established through these sensitive areas. Planning considered appropriate adjustments to the trail system or design treatments to minimize visitor disturbance.

The California Coastal Trail, an ongoing project to establish a network of public trails along the California coastline, is primarily located adjacent to State Highway 1 at the Reserve. Continuous coordination with appropriate agencies and stakeholders for the establishment of this trail and trail linkages to the regional trail network in the Santa Cruz Mountains will be supported.

Access to Año Nuevo Island is limited to scientific research activities. Sensitive marine resources, historic lighthouse structures, as well as hazardous conditions make general public access to the island difficult and inappropriate. State Parks' oversight of continuing maintenance and repair of historic structures on Año Nuevo Island is necessary to assure appropriate maintenance and preservation of those structures.

Año Nuevo State Park

Primary access to Año Nuevo SP will also be provided by State Highway 1. High speeds and the narrow layout of the highway will require careful planning and design for safe vehicular access into the park. Visitor facilities and use may generate an increase in pedestrians crossing the highway to access the coast or inland trail system.

Año Nuevo SP and Reserve's location along the San Mateo coast and within the Santa Cruz Mountains offers coastal access and the potential for inland trail connections within the region. Trail opportunities within the park and those connecting regional natural lands and parks are in high demand by multiple user groups. There is potential for new public trail access from State Highway 1 into the Santa Cruz Mountains regional trail network. These trail connections could be established with existing Whitehouse Creek Road, Chalk Mountain Road, and Old Womans Creek Trail.

Land use, natural resources, cultural resources, operations, infrastructure and the needs of adjacent resident's along Whitehouse Road and Old Womans Creek Road was evaluated to determine appropriate park access. Potential inland access points include State Highway 1 at Lake Elizabeth and Cascade Ranch as well as Gazos Creek Road at the intersection of Cloverdale Road. Planning evaluated access locations and appropriate areas for future facility development. Improving access to and within the park and enhancing regional connections was a significant aspect of this planning effort.

PARK PLANNING AND MANAGEMENT IN A REGIONAL CONTEXT

Coordinated planning and management can identify recreation needs and desires and expand recreation opportunities by integrating the park's recreation into a regional natural lands and recreation network, enhancing regional natural resource preservation and management, enhancing regional interpretation, and improving the effectiveness of maintenance, administrative, and visitor services. The planning and management of Año Nuevo SP and Año Nuevo SNR should consider interagency and regional coordination as key elements.

Año Nuevo SNR and SP are located near Pigeon Point Light Station SHP, Butano SP, Big Basin Redwoods SP, and Wilder Ranch SP. They are also near several other recreational and natural areas such as the Peninsula Open Space Trust's (POST)

Cloverdale Coastal Ranch property and the Coast Dairies property. The close proximity of these properties and the similarity of natural, cultural and recreational resources provide opportunities to manage these lands in a coordinated and integrated way. Coordination among the region's open space and park agencies as well as with adjacent private property owners can strengthen natural and cultural resource protection, enhance park operations, improve recreational and educational opportunities and protect private property interests. Coordinate and collaborate with agencies and regional partners is especially important on regional conservation actions such as DFG's Wildlife Action Plan recommendations for the Central Coast Region and the Marine Region as noted in the Section 3.1 Planning Assumptions.

Coordination and partnerships with POST and Cascade Ranch Historic Farm will play an important role in determining future recreation, trail connections, habitat preservation, interpretation and education opportunities, and park operations. Evaluation and coordination of regional agricultural heritage interpretation and education programs with Cascade Ranch Historic Farm, Wilder Ranch SP, Cloverdale Coastal Ranches, and Coast Dairies should also help determine interpretation and educational opportunities at Año Nuevo SP. Opportunities for shared agency and interagency staff housing and maintenance facilities was evaluated.

Combining Año Nuevo State Park and Año Nuevo State Natural Reserve into a Single State Park

Acquisition of Año Nuevo SP and Año Nuevo SNR properties has occurred incrementally. Initial acquisition of the Reserve properties was completed in 1958 in order to preserve the elephant seal habitat, coastal resources, and marine resources around Año Nuevo Point. Acquisition of the Cascade Ranch properties that would eventually become Año Nuevo SP was completed in 1985. During the park unit classification and naming process for the Cascade Ranch properties, consideration was given to inclusion of the properties as a part of the Reserve. The resulting action was to designate and name the properties as a separate park unit with a State Park classification because it allowed consideration of a wider range of recreation opportunities than a State Natural Reserve classification.

Park operations, maintenance, and administration have also evolved in an incremental manner to respond to specific

management circumstances and issues as the state park land ownership has grown. Providing for increasing visitor service needs and fulfilling park operations responsibilities is continually more challenging as park operations staff and resources remain limited.

The general plan provides a broad perspective beyond existing park operations arrangements, individual park unit boundaries or specific issues. The planning process provided an opportunity to consider more integrated, efficient, or creative alternative approaches to park operations, visitor experience, and resource management and to assume adequate resource protection and desired existing visitor experiences. Consideration was given to combine the State Natural Reserve with the State Park to improve current park operations, resource management and protection, as well as to serve or expand future park and visitor needs more effectively. Sub-unit classification, such as Natural Preserve, was considered appropriate to continue a high level of resource protection.

Preservation of Environmentally Sensitive Areas

Since the original acquisition of Año Nuevo SNR, there has been a continuing concern about providing adequate protection for the coastal environment and the elephant seals that inhabit the area. Throughout the history of the State Natural Reserve, the Department and the State Park and Recreation Commission have implemented actions, policies, and designations to assure appropriate protection of the unique and sensitive resources in this area.

As the general plan process proceeded through resource inventories and analysis, the planning team learned about the extent and conditions of sensitive natural and cultural resource areas. This is especially true of coastal areas and the Quiroste Valley.

Consideration of combining Año Nuevo SP and Año Nuevo SNR into a single State Park classification must continue protection of the elephant seals, coastal natural and cultural resources, and visual character. A sub-classification designation of Natural Preserve may be considered for important sensitive resource areas, such as the elephant seal habitat and native coastal dune complex, in order to continue and enhance resource protection in the Año Nuevo Point area.

There are also significant environmentally sensitive areas with individual and distinctive landscape character and

experiences that warrant special long-term protection and management. In recognition and response to these special park features, this general plan established a Natural Preserve to preserve and protect coastal habitats and wildlife. The General Plan also established a Cultural Preserve to preserve and protect a culturally significant valley occupied in the past by the Ohlone people in the inland portion of the park. Furthermore, the General Plan ensured the appropriate preservation of the historic resources and character of the Dickerson-Steele Ranch and Cascade Ranch complexes.